An Address
ON
AUTHORITY IN AND OF MEDICINE.

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BY WILLIAM CARTER, M.D., F.R.C.P. LOND., LL.B.,
PROFESSOR OF MATERIA MEDICA IN UNIVERSITY COLLEGE, LIVERPOOL.

GENTLEMEN,—Medicine, using that term in its broadest sense as including all that relates to the maintenance or restoration of health, owes much of the attraction which it exercises on those who study and practise it to its ever-increasing expansiveness. Looking back through the years that have passed since, as a student, I sat on the benches of this college I cannot but be struck with the marvellousness of the change which it has undergone during that period; and if we were endowed with the power of accurate anticipation as we are with that of retrospection, we should no doubt be as much astonished at the development which it will undergo during the coming thirty or forty years of its history as we now are with that which it has undergone during those just ending. Antiseptic surgery, with all its vast and sp'endid consequences to humanity; preventive medicine as a distinct and most fruitful branch of our profession; the proved relation of micro-organisms to some of the most virulent forms of infectious or contagious disease, with the subsequent discovery of methods of destroying these organisms without destroying the person in whose body they were multiplying, or of so modifying the character of the person's blood as to render him immune to their attacks; the determination of the influence of the internal secretions of some of the glands upon metabolic processes and the application of this fact to practice; the use of serum tests and serum therapy in the early recognition and cure of disease; the proved antagonism between the poison of acute rheumatism and salicin and its allies; these and many other achievements must rise instantly before the mind of every one of us.

Yet if all this had been foretold a century ago the prophet who proclaimed it would have been treated in the spirit in which true prophets always have been treated. He would not have been burned, because, happily, burning as a method of teaching truth or repressing error had long before gone out of fashion; but all that contemptuous sneers or cold indifference or open antagonism could do to break his heart or drown his voice would have been done, notwithstanding the supposed general enlightenment that characterised that, as it is thought to characterise this, age. In justification of this statement I will read to you a few words from a very remarkable prophecy, published just 103 years ago, which has earned for its distinguished author, even at the hands of biographers generally favourable to him, such appellations as "dreamer," "visionary," "benevolent enthusiast," "well-meaning mystic," &c., but never once that of a far-seeing, enlightened, philosophic seer. Condorcet—for he was the prophet—was being hunted to his death by the merciless agents of the Convention, yet undismayed by the terrors in the midst of which he was living he employed the last few weeks of his life, not in bemoaning his fate or vainly quarrelling with his times, but in looking forward with the clear and undimmed vision of a scientific prophet to a happier era which was even then he believed showing signs of dawning for humanity, and in his "Esquisse d'une tableau historique des progrès de l'esprit humain," wrote down what he saw. I will quote one passage, which runs as follows: "The organic perfectibility or deterioration of the classes of the vegetable or species of the animal kingdom may be regarded as one of the general laws of nature. This law extends itself to the human race; and it cannot be doubted that the progress of the sanative art; that the use of more wholesome food, and more comfortable habitations; that a mode of life which shall develop the physical powers by exercise, without at the same time impairing them by excess; in fine, that the destruction of the two most active causes of deterioration, penury and wretchedness on the one hand, and enormous wealth on the other, must necessarily tend to prolong the common duration of man's existence, and secure him a more constant health and a more robust constitution. It is manifest that the improvement of the practice of medicine, become more efficacious in consequence of the progress of reason and the social order, must in the end put a period to transmissible or contagious disorders, as well as to those general maladies resulting from climate, aliments, and the nature of certain occupations. Nor would it be difficult to prove that this hope might be extended to almost every other malady of which it is probable we shall hereafter discover the most remote causes. Would it even be absurd to suppose this quality of melioration in the human species as susceptible of an indefinite advancement; to suppose that a period must one day arrive when death will be nothing more than the effect either of extraordinary accidents, or of the slow and gradual decay of the vital powers; and that the duration of the middle space, of the interval between the birth of man and this decay, will itself have no assignable limit? Certainly, man will not become immortal; but may not the distance between the moment in which he draws his first breath and the common term when, in the course of nature, without malady, without accident, he finds it impossible any longer to exist, be necessarily protracted?"

That we are far, very far, yet from the realisation of this magnificent vision of future happiness of man upon earth is, alas, too true, yet it is a significant fact that every step taken since it was proclaimed has been distinctly in the direction of its fulfilment and has been taken, moreover, under the direct inspiration and guidance of our professions and we have but to remember that only a very few years before it was uttered Louis XV. of France had died of malignant small-pox, as annually died many thousands of his and our fellow countrymen; that Jenner's great discovery had not been proclaimed and adopted; that Voltaire is said to have characterised medical men, from whom Condorcet hoped so much, as those who put medicines of which they knew little into stomachs of which they knew less; and that not one of those great recently discovered scientific truths, the application of which has been so fruitful of good to mankind, had been so much as thought of, in order to be struck with the boldness of the prevision and encouraged to hope for, and aid in, its progressive fulfilment.

Look but for a moment at a small part of what has been achieved in this country under one only of the heads enumerated by him—viz., the sanative art—since in 1844 the "Health of Towns Commission" clearly revealed the extent to which preventable diseases prevailed and the means best calculated to check them, and especially since the Public Health Acts of 1872 and 1875 mapped out the entire kingdom into workable subdivisions and placed each under the supervision of an educated medical man; think of what is implied by a fall in the death-rate, which then for the first time in our national history began, from 22·5 to 18·7 per 1000; think of cholera having been as effectually banished from our shores as plague has been; think of the fact that typhus fever, which not long ago caused many thousands of deaths annually, and an outbreak of which when I was a student of this hospital almost decimated some of its wards, being now so little known that probably not one out of ten young medical men has ever had an opportunity of seeing a case; think how Adulteration Acts have insured to the poor that wholesome food and clothing which unprincipled manufacturers in their greed of gain would have denied them; how insanitary houses are everywhere being condemned and destroyed and healthy habitations for the poor replacing them; how injurious trades and manufactures are being supervised and modified in such a way as to promote and not to destroy the health of those employed in them; how open spaces are provided for healthy and rational exercise; how at last something of the care and consideration long given to the production and maintenance of a perfect machinery is being legally enforced for preserving the lives and health of those who work it; and how that in every large city in this and every other civilised country great numbers of earnest, thoughtful, scientific members of our profession are devoting time, energy, and talent to an investigation of those remote causes of disease and the means of destroying them to which Condorcet referred, and you will be filled with hope and encouragement and with a determination that the legitimate influence which medical opinion and

practice ought to exercise on the affairs of the world shall never be diminished by anything that you will do. It requires but a very slight glance at modern society to see how enormous that influence is, and it should be (and if we are true to ourselves it must be) as much for the advantage of mankind as for that of our profession that it shall be maintained and extended. But what can we do? may be asked. The reply will entirely depend upon ourselves. Individually we may think ourselves small enough, but, as the old Latin proverb has it, small things massed together are no longer small "Nihil est aliud magnum quam multa minuta." But in that very limited sphere in which we move as individuals, as well as in the larger and national one occupied by our profession, the effect which we shall be able to produce will depend entirely on the respect which we can gain for our opinions among the thinking portion of mankind, who alone constitute its true rulers. It is to the subject of authority in and of medicine, then—in this sense of power controlling opinion owing to recognition of its supposed truth and justice—that I wish to direct your attention, for, happily for ourselves as a profession, we are but little restrained by the fetters of external authority. So large, indeed, is the measure of freedom granted to us that extraordinary individual whims and extravagances are not unfrequently manifested within our ranks, which, however, by being wisely let alone or, at any rate, controlled only by the general body of wholesome opinion that prevails amongst us and is reflected with great clearness and strength in the medical press, are seldom, if ever, developed into extensively organised systems. Such whims seem to be one of the necessary inconveniences of liberty and part of the price that has everywhere to be paid for it. Yet if we contrast our comparative unanimity of sentiment without the restraint of external authority with the schisms that rend and disturb the peace of our sister profession—the Church—in spite of rigid creeds and formularies, we shall recognise the wisdom of the principle of trust reposed in us. Trust on the one side begets an honourable obligation on the other which should be stronger than the strength of any law in its effect upon conduct.

But there is another kind of authority much more dangerous to the independence of generous minds than that of any external law whether mandatory or prohibitive. It is that which attaches to great names and to the profound and often just reverence in which the opinion of those who own them are held. When a man distinguished by a long and honourable course of public and private professional life enunciates a dogma, especially if it be with regard to a subject of which he is admittedly a master and if he has advanced the boundaries of medicine and cleared away some of its obscurities, it is apt to be considered as conclusive, not only for the time in which it is uttered, but for all time, and thus the human mind may be trammelled and its advance retarded by appeals to one of its most attractive qualities. Yet the probability is very great, and more and more so in proportion to the appearance of finality that seems to attach to the dogma, that it will turn out to be untrue as time advances. Medicine may not be, and probably never will be, in the strict sense of the term an exact science, yet it so appropriates and makes part of itself the discoveries of many sciences that it must constantly be advancing with them. Under such circumstances dogma is out of place, the seemingly settled truth of to-day not infrequently requiring modification to-morrow in the light shed by some new research. Stokes was such a man as I have pictured, and in 1854 he wrote: "The treatment of fever is reduced to a formula. We cannot cure fever. No man ever cured fever—it will cure itself. If you keep the patient alive till the 14th, the 18th, or the 21st day he will recover." Commenting on these words in an inaugural address, given as President of the Liverpool Medical Institution in 1889, I remarked that "two of these sentences are commonly quoted to-day as axiomatic and as determining the question for all time. 'No man ever cured fever.' Probably not. Certainly not if you like, but no man ever knew what fever was, and until he does know he cannot be expected to be able to apply a rational cure. This knowledge will however be certainly attained, and when it is attained the cure will not remain long unknown." So much for the comment written in 1889. Stokes's statement, which certainly seemed justified by all the facts known at the time when it was made and which would have seemed almost equally so by the knowledge of 1889, is as certainly not justified now, owing to important facts discovered within the past few years. Yet it was frequently brought forward within those years in order to prove that these later supposed facts could not be facts. To-day the knowledge has been obtained. Some kinds of fever are being cured, and in most men's minds there is a confident expectation that before long the remainder will be proved to to be curable.

And that the spirit which would impose strict limitations, beyond which advance shall not be made, is still alive and active we have many proofs. Thus it was but a few months ago that there appeared in the *Gazette Hebdomadaire* a brilliantly written article proving the great danger, if not the impossibility of attempting to cure Pott's curvature of the spine by the method of sudden reduction. The hand of the writer was evidently that of a master. The illustrations were well drawn, and one saw with horror the huge gaping space between the contiguous vertebræ after they had been experimentally fractured in the anatomical laboratory and asked, with the author, by what known reparative process such a space could be filled up. There was so strong an antecedent probability in his proposition, and it was enforced by so much that read like sound reasoning, that, justified by these considerations and by a recollection of the surgical principles early inculcated into my mind by one of the acknowledged masters of this branch of his art—a gentleman whose name I rejoice to see is still on the consulting staff—and fortified by the confidence that always arises from a mere theoretical acquaintance with a subject which can only be thoroughly known by practice, it is not unlikely that I might have felt myself competent to demonstrate to any antagonist the impossibility of successfully performing the operation with as much clearness as Dr. Lardner is said many years ago to have demonstrated on economical and other grounds the impossibility of establishing a remunerative ocean steam navigation. Just eight weeks after the publication of the article I heard with very great surprise and interest that a distinguished surgical colleague of mine intended, in conjunction with a gentleman attached to a school of medicine not far removed from the one in which we are now assembled, suddenly to reduce, after the manner of Calot, the curvature in a number of cases that he had collected for the purpose. The interest of the proceeding determined me to be present to witness this most recent and most daring disregard of an authority rendered venerable by centuries of obedience, and it was with feelings of excitement difficult to suppress that I saw the deformity instantly reduced in five cases in succession, while the tension became positively painful when in one instance the spine gave way under the force applied to it with a crack that resounded all over the theatre, causing those who were present to look at each other with anxious faces indicative of their fears of the immediate effects of so much violence. I asked, and easily obtained, permission closely to examine every case as often as I pleased. The number soon rose from five to many times five, and the first question asked with reference to every one was, What was the amount of the paralysis that was said to be inevitable? The answer was always the same. The inevitable had somehow been avoided; paralysis was uniformly absent. Was there fever? No. But surely, it will be asked, there must have been pain? Yes, there certainly was pain, for I followed many from the operating table, watched them as they emerged from the influence of the anæsthetics and heard their cries. Yet the pain was but evanescent, for on the following day the little patients were smiling and contented, while in all cases, and a late one was aged twenty-two years, the spines were straight and have remained straight ever since. To all the objections henceforward raised against this method, as against so much else, we may reply in the spirit of Pascal's words concerning the treatment of Galileo, "It is in vain that you have procured against Galileo a decree from Rome condemning the opinion of the earth's motion. Assuredly that will never prove it to be at rest, and if we have unerring observations proving that it turns round not all mankind together can keep it from turning and themselves from turning with it."

To authority of another and more insidious kind, which is threatening to weaken the vigour of our profession and which, therefore, has to be watched and if necessary opposed, I will ask your attention. Owing to the many-sidedness of medicine and that rapid expansion of which I spoke at the commencement of this address it is quite impossible for any one man accurately to acquaint himself, even mentally, with all its parts, and equally so for him to attempt to practise them all, and hence specialisation becomes more or less a necessity. But there is a good and a bad specialism. Its tendency just now is to run into ludicrous excess and to

infect the public mind with the injurious belief that the human body is composed of a great many minute and independent parts and that he alone can speak with authority concerning any one of these parts who has devoted himself wholly to the consideration of it to the exclusion of all the rest. The departmental habit of mind is always a narrowing one, yet it is one which these ridiculous extremes tend directly to foster. They impair the power of forming a broad and comprehensive conception of man as a whole, whose organs are mutually interdependent, and convert those who run into them into mere prying supervisors of some single organ, or even of some small portion of a single organ. As an illustration of the latest phase of this cutting up process I may mention the work known as "Twentieth Century Practice," now in course of publication. It will consist of twenty volumes, each of some 700 or 750 large octavo pages. Let us take only one portion of the human organism on the whole of which good, sound, common-sense books well worthy of careful study have been written by general physicians, but which in this system is sub-divided into many minute parts and each sub-division handed over to a separate "eminent authority." It does not matter which portion is selected, for the same principle is applied to all alike. Suppose we fix on the respiratory organs. Beginning, then, with the nose—considered, however, in its strictly medical aspect only—we find it handed over to the care of an "eminent authority" in London, but lest he should be weighted with a burden that might prove intolerable to him, the adjacent naso-pharynx, pharynx, and tonsils have to be considered by another in France, while a third, this time in North America, takes charge of the larynx; but the trachea and bronchi being too much for any one man, are consigned, the first to one eminent Scotchman and the second to another; the lungs, but only on the understanding that nothing is to be said of influenza, are confided to a South American; while the last department, that of the accessory sinuses, falls to New York; and a fine comprehensive idea of man as a whole—as one who is "fearfully and wonderfully made," to use the grand but simple language of the Hebrew psalmist—will any student possess who should happen to live long enough to acquaint himself with all the different views of all the different eminent authorities on the disorders of all the different minute sub-divisions of all the organs that go to make up a man as they are set forth in a system like this. The assumption seems to be that by this minute sub-division of labour, between us, and bit by bit, we can get to the very heart of things and solve all the mysteries of life and disease.

It is difficult to give examples of the harm that may be done by the departmental view of man when carried fully out into practice without running the risk of reflecting on persons, which it is very far from my desire to do. It is the system that is bad, while some of those who almost without thought are giving support to it are among the most honourable of men. The injudicious devotee to a specialty—for please remember that it is of him, and him only, that I am speaking, and not, as I shall explain further on, of the legitimate and useful specialist—has usually a very large amount of enthusiasm and a very moderate amount of judgment. He devotes his whole mind and thought to a small section, or not unusually to a particular method of treating the disorders of a small section of the body, and can see nothing and think of nothing except in relation to it. He often sees what nobody else can see and hears what nobody else can hear, and, moreover, not unfrequently takes his patient into a close and confidential co-partnery with himself in his special knowledge and methods, and thereby does him more harm than all his efforts, however well intended, can do him good, for what is essential in most cases is to divert the attention from, and not to concentrate it on, the diseased organ, if it really is diseased, and not to give it the appearance of being diseased if it is not. It is of comparatively little importance which organ of the body is taken by way of illustration. The strongest-minded man among us would quickly have his strength converted into weakness if daily and hourly by the very method which was to cure him of some real or supposed ailment he was made to think of it instead of everything but it. Take the heart. I have in my mind a refined, scholarly, sensitive man, who had the double misfortune for one constituted as he was to inherit large wealth and to adopt a profession which seems to be thought inconsistent with the enjoyment of many innocent indoor and outdoor sports. I never saw him but once, and that after he had been led to place himself under the care—so I learned from his medical adviser—of an eminent authority who had a special system for converting diseased hearts into healthy ones, and he (the patient) showed me with an intense but wholly misplaced interest large charts on which the outline of his heart had been mapped out for him before he began the treatment, during its continuance, and after it was ended. These charts had been given to him for his information, guidance, and encouragement, and as well a little book accurately indicating—the directions being illustrated by drawings—what was to be done each day and each portion of each day. The result was what might have been anticipated by any man of common sense and broad general ideas of a nervous man's constitution. Though the condition of the heart grew better and better—the charts were declared to prove that, and the patient implicitly believed it—the general condition grew worse and worse. The heart certainly was not diseased when I saw him. If, therefore, it ever had been this system may possibly be accredited with the change. But what is the advantage of curing a man's heart if by the very method of cure you make him a more pitiable valetudinarian than he was before it was tried or than nature ever designed him to be? The patient does not know, he cannot know, and he ought not to know, anything about the area of dulness that can be mapped out by skilled fingers, and a chart of which is useful enough when made and kept for the practitioner's own information or for that of another; and to make him believe that he does know it is to do him harm; and if this kind of treatment is suggested in good faith, the faith must be much stronger that the judgment. You devote years of your life to acquiring the knowledge that will enable you to determine whether a heart is healthy or unhealthy, dilated or not dilated. At the end of your first year you will be much puzzled in your efforts to clear up the point, and is it to be believed that the method of resolving the doubt can be intelligibly communicated to a patient, who has had none of your preliminary training, in a few minutes? Or take another organ. Not long ago a stranger—a lady—consulted me who in a similar way had been made to believe by an eminent authority that she knew what in no proper sense she ever could know, for the knowledge at the very best could be to her but a knowledge of words and not of things, many minute details concerning an ailment from, instead of to, which her mind might advantageously have been directed. She also presented a chart on which everything had been put down in the most exact—the most scientifically exact, as it is called—and detailed manner. If the facts, as set forth, had been communicated by one medical man who happened to know more of the subject to another who happened to know less, it could not possibly have done any harm, even if it did no good. But it is quite another matter when there is given to a nervous person for permanent reference a formal sheet, on which she is informed that the disease from which she is suffering is "uric acid diathesis from sluggish liver," and that the 800 cubic centimetres of an important liquid excretion examined had a specific gravity of 1026, an amber colour and reaction; 3·306 (so precise was it) percentage of urea, increased uric acid, normal chlorides and alkaline sulphates, but slight excess of aromatic sulphates; that phosphates were in excess; that no hæmatin or urobilin was present; that indican was increased, but that happily bile pigment and bile acids were absent; that there was a slight amount of mucus, but neither sugar, acetone, aceto-acetic acid, hippuric acid, nor oxalic acid; that the sediment was slight, but that, slight though it was, it contained "numerous quadriurates and some uric acid crystals, epithelial cells, and a few casts." It was evidently with no small feeling of alarm, and yet at the same time with something of conscious pride at being the subject of so many very extraordinary things, that she favoured me with a sight of the document, and I am not sure that my efforts to reassure her by telling her that the whole thing was of no serious importance may not have been more successful in hurting her pride than in diverting her attention from what was injuring her by a constant contemplation of it. It ought, perhaps, to be added that the full name of the eminent authority and his official residence conspicuously and consistently ended the statement. These are examples of a kind of authority which I venture to think is bad—at least, in the mode in which it is exercised—which is increasing, and which ought to be checked. But how can we help to check the illegitimate and unwise specialism while availing ourselves of that which is legitimate and wise? I will tell you. By the assiduous cultivation of a robust but modest independence of mind founded on

an accurate knowledge of facts actually and often observed. This is something very different from conceit, which in the practising as much as in the non-practising student—for every one of us must all our life long continue to be a student—is insufferable. It should be an encouragement even to the youngest to know that it was on cases accurately observed and recorded during his hospital student days that Laennec founded that great work that revolutionised medicine and made for himself an enduring fame as a benefactor of his profession and his race. If I selected any portion of this syllabus as being in my judgment specially valuable where all is so valuable it would be that which says that great importance is attached to individual teaching at the bedside and in the special departments. This is the kind of teaching which of all others is most strongly and permanently stamped in upon the mind, and if it were attended to as thoroughly as it should be medical men would enter on the work of their lives with a quiet and assured confidence in no other way attainable—a confidence in themselves which would make them unassailable by the criticism of those whose practice may be more special than their own. It is fear arising from consciousness of ignorance that brings mental subserviency and makes a man readily defer to the dogmatically asserted statement of others, and it is not fair to ourselves or our profession willingly to consent to see with another man's eyes what with a little extra trouble we can learn very well how to see with our own.

> "Segnius irritant animos demissa per aurem,
> Quam quæ sunt oculis subjecta fidelibus ....."

says Horace in his "Ars Poetica," and this is a maxim that should be imprinted deeply on the mind of every medical student.

Are we all to know everything then? No. As I have already said, there must be specialists in a profession so many-sided as ours. I have mentioned what I venture to think some of the injurious forms of this. I will now narrate an incident which struck me very forcibly at the time of its occurrence as showing, not only the necessity of specialism, but as defining to a certain extent its just limits. It happened a long time ago, during one of the years of my presidency of the Liverpool Medical Institution, that a small pedunculated tumour was shown which had been removed from one of the vocal cords of a gentleman who had been hoarse, and at times completely voiceless, for years. He had consulted many medical men without the least advantage until, coming at length under the notice of a general surgeon, he was for the first time carefully examined by the laryngoscope and the cause of all his trouble recognised. But what did this gentleman do? Remember he was, and is, possessed not only of great skill as an operator, acquired in the practice of one or the largest provincial hospitals, but also of sound surgical judgment. What did he do then? Why, he told the patient with that assured confidence which, as I say, can only come of a knowledge acquired by careful observation, conducted by the only means that can make the observation careful, exactly what was the matter with him, but he did not attempt to relieve him. He felt that to do this required a manipulative dexterity in the use of delicate instruments which could only be acquired by long and special practice, and he sent him to a gentleman who had acquired this qualification, and who by means of it soon effected a cure. Now what I venture to say is that it would have been as wrong for the general surgeon to have tried to do the special work as it would have been for him not to ascertain for himself what the special work was that had to be done. And what I further venture to say to you, gentlemen, is that if with the admirable facilities afforded to you by this and the neighbouring institution for acquiring an accurate knowledge of the use of such instruments as the ophthalmoscope and the laryngoscope for the purposes of observation, and of telling your patients what is or is not the matter with them, so far as those instruments can enable you to do so (and I only use them as illustrations), and whither they may perhaps go to obtain relief, you will be no more true to yourselves or your profession than you will be if with this increased power of accurate observation you confuse in your minds and consciences the power to observe well with the ability to operate well, which are two entirely different things, and things which an honest mind will always keep distinct from each other.

But can there possibly be time for the acquisition of all this knowledge? I admit that a medical curriculum looks very formidable when viewed as a whole and that you could not possibly conquer it if you had to attack it all at once; but if ever you should be inclined to despond at the magnitude of the work to be accomplished think of what the dial-plate said to the discontented pendulum when one morning it suddenly stopped swinging through fright at the work to be got through in the course of a year. "It is not of six strokes that I complain," said the pendulum, after finding on trial that it could manage these without fatigue, "nor of sixty, but of millions." "Very good," replied the dial plate, "but recollect that although you may think of a million strokes in an instant you are required to execute but one, and that, however often you may hereafter have to swing, a moment will always be given to swing in." If you carry out the syllabus on this principle and in this spirit there will be—indeed, there must be—not only plenty of time for this work, but plenty also for much else about which, if medicine through you is to exercise that authoritative influence on the national life which is so essential for its progress, it is necessary that you should form sound judgments based upon sound knowledge.

Take the great subject of our recreations, on which you will be consulted every day of your lives, and which is becoming daily of greater importance now that shorter hours of labour are everywhere becoming more general. On no subject ought medical opinion to be more clear and precise than on this. If the brain is to work healthfully it must have its due periods of diversion and of rest, and a portion of this diversion cannot better be obtained than by the pursuit of those magnificent outdoor sports which happily are the glory as they are the strength of our race. This noble passion for cricket, boating, cycling, golfing, football, hunting across country, shooting over moors, for everything, indeed, that tends to foster hardihood, muscular endurance, a fine spirit of fair play and justice, as well as health, should be encouraged and never repressed by us who are best qualified to judge of its effects. Do not lightly tell a mother on some petty technical ground and with an air of authority that cycling will not be good for her daughter. Her indulging in this fine exercise may make all the difference between her becoming a Katherina or an Imogen. But the best way to prove the value of your doctrines to the public is to practise them yourselves. I do not believe that any man can thoroughly and healthfully master his curriculum without indulging largely in some form of severe physical exercise. Recreation—re-creation—so necessary for each one of us if we are to do our work well, is obtainable no doubt in many different ways, but in few perhaps better than such as those afforded by the students' club, with its branches of cricket, football, tennis, and I should hope in the near future, if not at present, cycling, swimming, and other forms of athletic exercise—a department of college life of inestimable advantage, and one in which you have ample means of obtaining the relief which you should require if your work within wards and class-rooms is done as it ought to be. An experiment of great value, as it seems to me, and one to which I often refer, was performed by Mr. Charles Paget, formerly M.P. for Nottingham, in the village school on his estate at Ruddington, and the principle underlying which is equally applicable to a medical school in London or anywhere else. He was not satisfied with the general progress made by the boys and provided for them therefore a large garden. The school was then divided into two sections, one of which was kept to the ordinary school work for the ordinary hours, the other for half of these hours only, the rest of the school time being devoted to work in the garden. At the end of the term, the half-term, or gardening boys, had excelled the others in every respect—in conduct, in diligence, and in the results of study. In these times of brain-pressure such a fact as that may well be remembered by all of us in relation both to our own needs and those of the public.

This perhaps is the most appropriate place briefly to mention one other matter of general importance as affecting the medical man's and (through the individual medical man) the medical profession's influence upon the society of his time. He of all others ought to be a man of general culture. Everywhere throughout the kingdom he is being asked to take part in the public life of the place in which he resides, and as a member of urban or district council, board of guardians, bench of magistrates, school board, or otherwise, has opportunities of impressing that life with his own ideas. Yet the more technical portion of his reading is of such a character as to shut it out, and to shut him out

also, from general society if he can talk and think of nothing but it. In one of two addresses given some twenty years ago to the students of Cheshunt College by the late Dean Stanley he expressed the hope that Sir Walter Scott's novels were among the best part of their theological reading. What has always struck me as a misfortune is the readiness with which medical men drop all that earlier classical knowledge on which as a foundation their more technical instruction is reared. Yet it would be very easy to keep it up, though difficult to re-acquire it when lost. Every medical student has, for example, to make himself acquainted with at least one book of some Latin author; and every medical man has to write prescriptions into which Latin enters. An hour, or perhaps half-an-hour, a week would be quite enough to keep up his acquaintance with the first, which, if it were done, besides being valuable to the mind generally, would make the particular exhibitions of defective culture in the latter less remarkable than they too frequently are at present. It certainly is not advantageous to us as a profession, and not likely to promote our influence on the educated people of our times, when such words as these which I remember to have read in a review written nearly forty years ago on the best-known and most quoted Latin poet—words which are certainly as true now as then—are thought applicable to us. "The country gentleman, the clergyman, sometimes even the lawyer and the doctor, ... all draw from the same well instances and illustrations." *Even* the lawyer, and, last of all, *even* the doctor! I am not pleading for pedantry or for a pretence of a full and critical acquaintance with ancient classical authors, which latter it is impossible that we can possess, but merely for such a continuance of, and possibly advance on, our school or college acquirements as shall not make us feel on a lower level of education than that occupied by the reviewer's country gentleman. But whether this kind of learning is kept up or not other kinds must be, for consciously or unconsciously to ourselves as a nation, but surely and steadily, changes are everywhere being wrought in the great forces of civilisation and commerce which, if they are to issue in good rather than evil, should be clearly recognised by medical men and made the subjects of their calm, deliberate, and intelligent judgments. I can only briefly allude to some of these. It will be for you to reflect on them.

The strong, swift, and ever-increasing set of the current of human life from the country to the great towns is one of them. It is idle to lament, and still more to try to prevent this. But what is not idle is clearly to apprehend the causes which in all past times made the aggregation of vast numbers of human beings into limited areas injurious to health, to attack and overcome these causes, and thus to make city life not only physically healthy, but what it is always capable of being—intellectually and morally the noblest kind of life. The work done in this direction in recent years is enormous, but the problems which remain are great, and are such as medical men alone can effectually solve. And it is no small earnest of their ultimate success that this vast city, unexampled in all time for the extent of its population, has been made under the enlightened and judicious counsels of such men as Sir John Simon, Sir Richard Thorne Thorne, the late Sir George Buchanan, and others, not only one of the healthiest cities of the world, but far healthier even than many rural districts. I will venture to quote one question and answer from the first report of the Health of Towns Commission. Dr. Neill Arnot was the witness. "From what you have seen with respect to the state of the atmosphere in buildings generally, do not you consider that it would be a matter of great importance, not only for medical men, but also for architects and engineers, that the subject"—i.e., of ventilation—"should be enforced as a branch of education among those professional classes?" "I do," was the reply. "I think acquaintance with it almost as important to the utility of a medical man as acquaintance with anatomy."

Another of the great social questions which presses for solution, and in which the voice of medicine should be clearly and authoritatively heard, is the *rôle* which alcohol plays in the individual, social, and national life of our time. I am not going to take an unfair advantage of my position here to preach on the utility of total abstinence. But I should be failing in my duty if I did not urge upon you the necessity of a careful and independent consideration of this subject, not guided alone by the small experiments of the laboratory, but by those larger experiments that are being performed for us in every city and village of our land, and the results of which can be witnessed in ruined health in thousands of wrecked and wretched homes, in gaols, in workhouses, in asylums, and in hospitals. Those facts and figures on a large scale, which, in his appendix to the Registrar-General's Thirty-ninth Annual Report, the late Dr. Farr regarded as necessary for determining this question, have, since the publication of that report, and probably in consequence of it, been supplied, and should be carefully weighed by every medical man.

Although I have taxed your patience very long I must for a few minutes before concluding allude to one other department in which demands on our faith and even on our credulity of a very exacting character have been made by those who, owing to the special nature of their studies, claim to speak with the voice of authority. I allude to that dark region that is intimately but mysteriously associated with the operations of mind. Here especially, while acknowledging with thankfulness whatever there is of real discovery, we have need to guard ourselves against a too slavish submission. There are certain fundamental principles on which human society is established and which cannot be disturbed without seriously disturbing it. Such are the great moral intuitions, as we have been content to consider them. We know that we are possessed of them as certainly as we know anything, and more certainly than we know most things, but that is all. If the cerebral pathologist or physiologist could afford the slightest real clue to the solution of the most intricate of all problems, the relation between the brain and thought, the genesis of will and of the idea of responsibility, we should thankfully accept it. But when, instead of doing this, he informs us that these supposed moral intuitions are, after all, nothing but delusions, that he has investigated the matter and discovered that what, for example, we in our ignorance suppose to be a free exercise of will is not so, but that "by a strange phenomenon of which *we are incessantly the dupes* it comes to light in the *form* of spontaneity in our ideas, our work, our acts," we are entitled to ask him for proofs, and to demand that the proofs shall be rigid and exact and not a pretentious display of real ignorance dressed in high-sounding but meaningless phrases; and especially are we entitled to demand this when by virtue of his special knowledge he assumes an air of superiority over all those who have gone before him. Let me for a moment or two ask your opinion on a few of the alleged explanations of the inexplicable that have been given to us by some of our self-styled philosophic physicians—for, gentlemen, neither you nor I have any right weakly to renounce our judgment in matters such as these. One of them complains that "the controversies of philosophers and metaphysicians which have been taking place from time immemorial have succeeded in arriving but at one thing—the expression in sonorous language of their ignorance, more or less complete, of the fundamental characters of psychical life," and thus raises in our minds the expectation of a lucid and simple exposition about which there can be no doubt. You must judge. To start with, we are told that there are certain fundamental properties of nervous tissue, among which are organic phosphorescence and automatism. Everything then becomes plain. Does it puzzle you to understand by what process sensibility can become a property of matter? It is only a proof that you have not read M. Luys on the Brain and its Functions, for it comes about in this wise. "The simple physical impression produced by the external world is transformed as it becomes incorporated with the organic tissues into nervous vibrations, and these nervous vibrations passing through successive agglomerations of cells undergo the action of the different media through which they pass until they arrive, transformed and purified, in the plexuses of the cortical substances, which are set in motion impressed and vivified by them alone"; and again, "The connexions between the peripheral plexuses and those of the sensorium are so intimate that so soon as an impression has been produced in the former their partner cerebral regions immediately enter into unison with them. There is a nervous condition of similar pitch which harmonises one part with another, and whenever the primordial impression has been sufficiently intense and sufficiently prolonged, whenever there has been an effective participation of the nervous plexuses laid under contribution, the partner plexuses of the cerebrum sympathetically associate in their excitation and enter upon a concordant period of erethism. The incident excitation arrives, then, in the plexuses of the cortical substance purified and animalised by the peculiar

metabolic action of the nervous plexuses in the womb of which it is incarnated, and then transforming itself into a psychic excitation it develops the latent energies proper to the cerebral cells, imprints itself upon them, and perpetuates itself in them in the form of persistent vibrations like a phosphoric gleam of the external world."

Very much in the same spirit writes another distinguished authority in the same realm of medicine. Like Dr. Luys, Dr. Maudsley is very severe on the "philosophers of the study" who "indulge in vagueness of thought and expression, and seem to be unable to get clear and exact notions of psychological facts in their mental relations." He resolves, therefore, so he tells us, "to leave the barren heights of speculation for the plains on which men live and move and have their being." Clearness and exactitude of thought and expression are certainly most desirable ends. Whether your own notions as to sensations are more clear and exact than they were before, when you find them spoken of as "representing the source of multitudes of activities that are going on below the threshold of consciousness, and which, albeit unperceived and unfelt, immediately vibrate subtilely in the most intimate and intricate interactions of organic depths and in the result deeply affect the tone of consciousness," you must judge. Or perhaps, if not absolutely enlightened by this, you will become so after reading a little further on that there are "two leading facts, and for us ultimate facts, which it behoves us to apprehend and fix firmly in mind—first, that there has been what we may call a *nisus* of nature, and secondly, that successive transpeciations of matter have been events of it. Continuity of nature certainly, but as certainly not of kind in nature, for the continuity is of different kinds, therefore in some sort a discontinuity, a new springing up from the bases of the old kind—not continuity by homogeneous but by heterogeneous generation." You will no doubt recognise from the unexampled lucidity of thought and exactitude of expression displayed in these passages the advantage of leaving the barren heights of speculation in which men expressed in sonorous language their ignorance more or less complete of the fundamental characters of psychical life; and coming down modestly to the plains where authoritative guides can address us in language which all can understand. And you will probably not be surprised to be informed that "it is the superaddition of consciousness"—and nothing more than that—"to definite susceptibility to impressions, and definite reaction thereto, which are common properties of all organic matter, that makes them sensation and effort." It is all so very simple. One would imagine that this superaddition of consciousness to various kinds of organic matter imparting to it sensation and effort were taking place under our eyes every day of our lives, so offhand is the manner in which it is thus casually alluded to. Whereas this is the very problem of problems, the solution of which, whether attempted on the mountain or the plain, by means of the microscope or without it, eludes us, as it has always done, and is as far off now as ever. And probably our deference to authority in this branch of our studies will be considerably shaken when we listen to the final results as given by the two authors themselves, each in his own language. Thus Dr. Maudsley assures us with reference to every possible human action that the doer of it "certainly could not have done otherwise than as he did on that occasion, but he is not, therefore, fate-bound to do the same on another occasion"; while, according to Dr. Luys, besides being dupes of a supposed moral freedom which we do not possess, "we see, then, to sum up what precedes, that the processes which produce voluntary motion pass in their evolution through phases inverse to those of the processes of sensibility. While these latter, as they approach to the central regions of the sensorium, are purified and made perfect, being more and more intellectualised by the metabolic action of the different nervous media through which they are propagated, the former, on the contrary, conceived as psychical vibrations at the moment of their genesis, amplify and are materialised more and more as they descend from superior regions. They become complicated by the addition of adventitious elements which reinforce them as they progress ..... and thus become in the last term of their evolution a true synthesis of agglomerated organic elements, which resume in themselves the vital forces of the system through which they have been developed." "Conceived under this simple formula," says the author—"simple," mind! of all other terms applicable to such a formula,—"conceived under this simple formula, the processes which produce voluntary motion present the fascinating picture we constantly see presented to us in the working of steam-engines."

Very fascinating, truly! Very lofty and ennobling! How different is the spirit displayed in writing such as this from that of one whose name can never be mentioned here without a feeling of respect and pride. Huxley craved for truth in these, as in other, great questions, but he hated shams and pretences too intensely to deceive himself or others into the belief that he had attained to it so long as there was room to doubt; and in all the great controversies of his, which are indeed the controversies of our time, was willing to admit the limitations of human knowledge. When it was a question of the origin of life, and assertions were dogmatically made as to its alleged outcome from not living matter, there was no ambiguity or want of clearness in his utterance. "The fact is," he wrote, "that at the present moment there is not a shadow of trustworthy direct evidence that abiogenesis does take place, or has taken place within the period during which the existence of life on the globe is recorded"; and in another place "the present state of our knowledge furnishes us with no link between the living and the not living"; when it was one of the relations between matter and thought the same fair, candid, and cautious spirit manifested itself. "Matter may be regarded as a form of thought; thought may be regarded as a property of matter; each statement has a certain relative truth."

How different is this from that proud and self-sufficient philosophy which pretends to explain all things, pretends to a knowledge which it does not possess. Mystery, reverence, awe are all to disappear before the penetrating gaze of these cerebral philosophers. The heights of man's noblest aspirations, the depths of his deepest despair, his spiritual cravings, his consciousness of moral freedom, are all to be explained on purely physical theories and by purely physical processes. That he is a being who has within himself anything whatever that cannot be seen by the modern microscopist, or analysed by the advanced chemistry of the latter end of the nineteenth century, or searched through and through by Roentgen rays, can hardly be credited by the self-sufficient philosophy which is doing its utmost to tyrannise over us to-day. Actions and inter-actions between stimuli and nerve-cells, which the subjects of them can no more control than they can the growth of their hair or nails, must in some way be made to account for remorse, anger, will, and every other quality of mind; and, this being so, they are made to account for them—at least, to the satisfaction of the philosophers themselves, if of nobody else. Conviction, conscience, devotion to the death in the cause of truth, and many another noble characteristic of our species which no mere philosophy of the scalpel and test-tube can comprehend, have to be carefully considered as important facts of human nature by medical men. Gentlemen, on such questions as these also, on a right or wrong view of which the happiness of mankind so much depends, we must preserve a strong if unobtrusive independence of mind. To use the words of Bishop Butler, "Let reason be kept to"; and if proofs can be given that the undying beliefs in the truth of these great moral intuitions are ill-founded, then let them, "in the name of God, be given up," but let us not be content to be cheated out of them by a mere trick of high-sounding but meaningless phrases.

The schools of medicine are probably at this moment the most stimulating schools of thought throughout the whole world. That "sacred torpidity" which is said still to permeate at least one of the older seats of learning, and to "dishearten early" all but its boldest intellects, is unknown and unfelt here. The great problems of life, disease, and death are too intense and too close at hand to admit of lethargy. But in the stimulation there may be danger. Speculation is apt to run riot. In attempting, then, the solution of these problems, if and when they are soluble, do not in a spirit of slavish submission bow down to authority. Do not, on the other hand, in a spirit of recklessness and to show the world how independent you are, needlessly run counter to it because it is authority. But with pure and honest hearts, conscious of a manly integrity, and with a noble but quiet determination to fulfil to the utmost those sacred duties which it has pleased Almighty God in His Providence to entrust you with, "prove all things and hold fast that which is good."

An Introductory Address

ON

THE MEDICAL STUDENT: HIS WORK AND ITS OBJECT.

Delivered to the Students of the Medical Faculty of University College, London, on Oct. 4th, 1897.

BY RAYMOND JOHNSON, M.B., B.S. LOND., F.R.C.S. ENG.

GENTLEMEN,—We are assembled here to-day to inaugurate the seventieth winter session of the Medical Faculty of this College, and those of you who are beginning your studies and those who are continuing or concluding them are invited to meet together and listen to an introductory address. From time immemorial it has been the custom to surround the admission of students to the profession of medicine with some kind of ceremony. Thus we are told that in the earliest Sanscrit writings the function is described as of a most imposing character. The gods were first propitiated by numerous offerings and then the students were treated to an excellent introductory lecture in which, amongst other things, the teacher counselled them "to be chaste and temperate, to speak the truth, to obey him in all things, and to wear a beard." And in passing it may be remarked that this matter of the beard seems ever to have been under consideration, and by the middle of the sixteenth century it was decided that no apprentice of the Barber-Surgeons Company should wear a beard of more than fifteen days' growth, the penalty being that the unshaven apprentice should forfeit his apprenticeship and that his master should pay a fine of 6*s* 8*d*. Doubtless this regulation was framed with an eye to business, for since the professions of barbery and surgery have been divorced from each other, the medical student has been allowed to follow his own tastes entirely in the clothing of his chin.

It seems but natural that we should begin our year's work by a general meeting together before we start off upon our different duties and doubtless the delivery of an introductory address is a very business-like commencement. Personally, however, I had wished that on this occasion the well-worn custom had been honoured in the breach rather than in the observance and that, having heard the Dean's report and the announcement of the prizes, you, gentlemen, might be free to spend the remainder of the meeting in some more congenial manner than in gathering the dry crumbs which are the best that I can offer you. You are familiar with the words:

> "Some are born great,
> Some achieve greatness,
> And some have greatness thrust upon them."

If my position here to-day is any evidence of greatness I can assure you it has been thrust upon me. And yet, gentlemen, my first and chief duty is a very easy and a very pleasant one—to wish those of you who are here for the first time to-day a very hearty welcome to University College. May the years you spend within these walls be the happy ones they have been to hundreds before you. May the friendships you make grow firmer with advancing time and be something much deeper than mere acquaintances. May you never have reason to regret your choice of a medical school, but may University College become in the highest sense your Alma Mater to whom in future years, wherever your lines may be fallen, you may look with gratitude and respect—I would venture to say with love. Gentlemen, the profession which you have selected for your life's work will call for the exercise of all your energy if you wish for any success. In no other circumstances could you find a wider field for your labours, for I may with confidence assume that each one of you desires to become a widely-informed scientific worker, and something much higher than a mere "medicine man." To none more fully than to those who are engaged in the study of medicine do the words of Alexander Pope apply:

> "The proper study of mankind is man."

We are concerned with man. Man is the material upon which we are called to exercise our craft, and therefore there is nothing concerning mankind at large which a medical man will not be the better for knowing. A great physician has said that each case which comes before us should be considered as "the disease + the person." The "disease" element is provided for in the medical curriculum, the "person" element can only be fathomed by him who from experience has learned to make a rapid and accurate estimate of the man with whom he has to deal. And thus it is that a medical man should be in the highest sense "a man of the world." Let me urge you, therefore not to allow the keen interest which you cannot fail to have in your medical studies to prevent you widening your general knowledge in every possible direction. Keep up your general reading, take a lively interest in all that is going on in the world, and never lose an opportunity of adding to your fund of general information. In your everyday work you will be brought into contact with every conceivable variety of individual, and the more thoroughly you can put yourself into the position of your patient the more accurately will you be able to estimate the personal element of which I have been speaking.

Be sure of this, also, that your patients will expect of you much knowledge which can hardly be called medical. The family medical man is consulted about all kinds of matters which have but a very indirect bearing on his profession, questions which only a sound common-sense and a rich fund of general information can enable him to answer. He is a witness of many plays on the stage of life, and if he would enter into the spirit of the actors he must be a man of "many parts." Each one from "the infant mewling and puking in the nurse's arms" onward to the "lean and slippered pantaloon" and the weary player in the "last scene of all" will look to the doctor for sympathetic interest and will expect to find in him an intimate acquaintance with the part he plays.

These remarks may seem to you somewhat premature at this stage of your proceedings, but it is just when the student's mind first becomes engrossed with the many subjects of our crowded curriculum that there is the greatest danger of general knowledge and culture being neglected; and although it is perfectly true that an earnest worker must find his greatest happiness in his work, it is none the less true that much additional happiness and healthy relaxation can be obtained from outside interests. A hard-worked man without a hobby is like a high-pressure boiler without a safety-valve, likely to burst from overstrain at any moment. Some men are so engrossed with their work that they cannot even enjoy a holiday, and should they in due course be able to retire from active practice, instead of spending their declining years in well-earned leisure, they break up and die, literally from want of something to do. The course of study which you begin to-day resolves itself into two great periods—first, that in which you are concerned with the structure and functions of the healthy human body, together with the study of such sciences as may help to elucidate them, and, secondly, the period in which you will study disease in all its aspects. The importance of thoroughness and method in your earlier studies cannot be exaggerated, for they possess a double value. Not only are they obviously indispensable as a preliminary to the strictly medical part of the course, but they afford an invaluable training of the powers of observation and a means of acquiring a scientific habit of mind. They have, therefore, both a strictly technical and a general educational value. For this reason such subjects as anatomy and physiology demand the most thorough and painstaking study. Frequently the student will find himself confronted with matters in which he fails to see the remotest possibility of any practical application. Not the less on this account must he endeavour to master them and who indeed shall venture to pick out the smallest fact in anatomy or physiology which is necessarily devoid of all practical importance? The study of chemistry, moreover, is daily becoming of greater importance for the proper understanding of the nature and treatment of disease.

Above all things I would implore you not to neglect your practical work in the dissecting room. A thorough knowledge of anatomy will prove of inestimable value to you and can be obtained only in one way—by actual dissection. You may supplement this by the study of text-books, but anatomy learned by reading only is an empty sham. The student may know in order every branch of every nerve and every artery, and be able to draw the brachial plexus on a blackboard with his eyes shut, and yet altogether fail to recognise even the most important of the structures about which he knows so much when he meets with them in their only

right, but to him unfamiliar, place—the body. Who is not familiar with the sorry sight of the would-be anatomist who, armed with a "Pocket Gray" in one coat-tail and a packet of diagrams and mnemonics in prose and verse in the other, is vainly endeavouring, with the additional aid of illustrations and other people's dissections, to cram up in a few short weeks the knowledge which he should gradually have been acquiring by diligent work in the dissecting room? Such a quasi-knowledge of anatomy may, if the student have good luck, secure him the minimum of marks required for a pass at an anatomical examination, but it will disappear as quickly as it was acquired and need not be mourned for, being from the practical point of view absolutely valueless. At the present time a strong plea for individual practical work in anatomy and the other subjects of the earlier part of the curriculum seems to me to be particularly necessary. The medical curriculum is very crowded—possibly over-crowded—and the constant chain of classes and demonstrations which the student is called upon to attend is in danger of seriously curtailing the time devoted to individual study, especially in practical anatomy. Indeed, I fear that we are in risk of unduly multiplying these classes and demonstrations, valuable as they are, if rightly employed.

There is a grievous error into which the medical student is very apt to fall, that of regarding the acquisition of knowledge as necessary merely for the successful passing of his examinations. Examinations are a very necessary evil, for by such means alone is it possible to determine, however imperfectly, that a student has acquired that degree of knowledge which entitles him to receive official permission to practise his profession. Some such guarantee must be forthcoming; the public who place themselves in our hands demand it, and the State, which entrusts important duties to the medical profession, must have some guarantee of fitness. It is disastrous, however, to regard those tests as the final object of study. And yet how often is the mistake made! The result is invariably the same: the student's work becomes paroxysmal, and occasional periods of phenomenal exertion are separated by long intervals of more or less complete quiescence. In these circumstances the one endeavour is to induce the brain to assimilate for the time being the necessary store of facts, which must be so condensed and arranged as shall fit them to be the more readily brought forth again in the time of need. It is a travesty of the name of knowledge to apply it to such a conglomeration. The information thus obtained lacks, amongst other things, all perspective. Each solitary fact stands out of all relations to its surroundings. The "likely" and the "unlikely," the "probable" and the "possible," are all hopelessly jumbled together. Such information cannot be used for practical application, and is too frequently concerned with the extraordinary to the exclusion of the commonplace. One man may be able to rattle off quite faultlessly the course and branches of of all the petrosal nerves, and yet hardly be able to distinguish a kidney from a spleen, whilst yet another can construct a list as long as his arm of the causes of retention of urine, putting dislocation of the femur in the perineum at the top, and adding stricture of the urethra as an afterthought at the bottom. Gentlemen, let me urge you to look to the quality as well as to the quantity of your knowledge, and aim at something higher than the bare minimum with which so many are content. George Herbert's advice is excellent—

> "Pitch thy behaviour low, thy projects high
> So shalt thou humble and magnanimous be,
> Sink not in spirit: who aimeth at the sky
> Shoots higher much than he that means a tree:"

advice which we may more particularly accept because the poet concludes his verse—

> "A grain of glory mixed with humbleness
> Cures both a fever and lethargicness."

Obtain your knowledge at the fountain head and digest it down by your own efforts, so that it may become assimilated and form an integral part of yourselves. Do not crave too much for specially prepared knowledge or you will lose the power of teaching yourselves, and in course of time, according to the law that the supply is determined by the demand, you will convert the teachers into mere cramming machines warranted to force the largest amount of semi-digested intellectual pap into the student in the shortest possible time and with the least possible effort on the part of himself.

Much has been said in introductory addresses and elsewhere both for and against the systematic courses of lectures which will engage a good deal of your time and attention. Some men—I believe the great majority—can obtain a better grasp of a subject by listening for an hour to the expositions of a capable lecturer than by spending a similar period of time in reading the best of text-books. It is proverbially easier to express ideas in speech than to commit them to writing, whilst the individuality of the teacher should be an important help in impressing the facts which he is endeavouring to elucidate. Moreover, a clear lecturer may avoid uncertainty by a degree of repetition which would hardly be pardonable in the pages of a manual, and is able to draw similes and quote instances which would appear trivial if reduced to black and white. But I would say, if a student honestly believes that he can employ his time better than by attending lectures by all means let him do so; he alone is the loser if he has judged wrongly. Let his absence, however, be honestly due to this belief alone and not in the least degree determined by the fact that the hour fixed for these discourses is often 9 o'clock in the morning. I would repeat that for most men attendance at lectures is one of the most useful means of acquiring knowledge. Frequently, however, a most industrious student may altogether lose the chief value of the lecture by a misdirected energy in note-taking. He labours incessantly from beginning to end taking down the words of the lecturer as far as he can verbatim, and possibly spending much of his evenings in making a fair copy. He thus provides himself at infinite trouble with what is practically the unrevised proof of a text-book on the subject. The serious weak point in such a system is that the student gains nothing during the hour of lecture except a certain quantity of written material from which, doubtless, he may gain useful information by subsequent study, but which has lost the personal stamp of the lecturer. Let the most that is attempted during the lecture be to go carefully with the lecturer along the course which he marks out and merely to note down in the shortest manner the main headings of an argument or of the facts under consideration which may be somewhat amplified when the matter is being subsequently studied.

It so happens that in this College a main thoroughfare runs between the medical school and the hospital, an arrangement which serves to impress the maxim—do not meddle with the affairs on the other side of the road until you have finished with those on this. Nothing is gained, but much valuable time is lost, by a student who is occupied with the earlier part of the curriculum resorting to the operating theatre or wards of the hospital. The desire which attracts him there is not much higher than that which induces a crowd to collect at the sight of an ambulance in the street—morbid curiosity. The sights presented to him are but meaningless tragedies unsoftened by the real interest they will possess for him if only he will wait until he comes to study and not merely to gaze upon them. It is, indeed, needless for me to assure you that only by the most steady and persevering application to your work will you be able to master all that is required of you in the first two years of your studentship. Do not let the first burst of energy be a mere flash in the pan, but begin steadily as you mean to go on.

It may be thought by some that the question of a medical student's recreations, which are not provided for in the curriculum, hardly comes within the scope of an introductory address. Surely, it may be urged, a man may be left to make his own plans for his recreations and amusements. Quite so, and yet surely it is highly desirable that in any institution where men are collected together for purposes of study all reasonable facilities should be afforded by the authorities for the different forms of athletic exercises. In this respect the medical schools of London have been well to the front, and it should be the endeavour of the students of this College to see that their school takes its proper place in the cricket and football fields as well as in the more serious fields of learning and research. Thanks to the Union Society, to which every student and teacher should, if possible, belong, we are now in possession of an excellent athletic ground, and thus a long-felt want has been supplied. To every man, whatever his occupation, regular out-door exercise is absolutely necessary if he wishes to remain the possessor of a healthy mind in a healthy body, and it must be remembered that a professional man is dependent upon his own individual efforts and may

be compelled to abandon his practice for a degree of ill-health which in many other circumstances would not prevent him remaining at the head of his concerns. It should be his endeavour, therefore, to remain in good working order as long as he can. Whatever form of recreation is adopted, let it be, like your work, indulged in with some sort of method, so that the one may not suffer but benefit as a result of the other. One is but too familiar with the opposite extremes between which, of course, lies the happy mean. One student thinks of absolutely nothing but his work; from morning until night, week in, week out, Saturday afternoon and Sunday included, no relaxation is taken. A student of this class was positively met on his way to the College, with a femur under his arm deep in the contemplation of its inferior extremity. On the other hand, who has not come across the student who, from all appearances is endeavouring to qualify rather as a professional cricketer than as a practitioner of medicine. In this matter I cannot do better than recommend to your consideration the advice lately given by the Master of Trinity, which you will not appreciate the less because it was addressed to a gathering of school boys: "Strive to preserve a right balance between your different enthusiasms." Cultivate the habit of throwing off all thoughts of work at the proper time for recreation, but do not let the latter so occupy you that the more serious matters which should be your first concern are relegated to spare moments when there seems to be nothing else to do. Football and cricket will, of course, take precedence of all other games, and of these the former certainly has the advantage that it can more easily be indulged in without interference with the work of the school. Moreover, football offers the additional advantage that it often combines pleasure with business and affords no small experience in the rendering of first aid to the wounded and a valuable personal acquaintance with the more ordinary fractures and dislocations.

In such an institution as this we necessarily miss much of the social life of a university. A man may, if he be so disposed, pass through the whole of his career here and never know in any real sense a single one of the men with whom he is daily brought into contact. But although such a state of things is possible it is none the less undesirable and by no means necessary. The man who locks himself up within the narrow limits of his own self is denying himself one of the most valuable means of preparation for his part in life. We are all more or less roughly-cut stones—though some perchance be diamonds—and are much improved by gentle friction with others of a like kind. In his work the student will necessarily find himself in constant association and competition with his fellows, and the wise man will not allow any feeling of jealousy to lessen the valuable assistance which he can gain from intercourse with those who are stronger than himself. How exactly does R. W. Emerson hit off what all of us must feel in this matter of friendship. "Our chief want in life is somebody who shall make us do what we can. This is the service of a friend. With him we are easily great. There is a sublime attraction in him to whatever virtue is in us. How he flings wide the doors of existence! What questions we ask of him! What an understanding we have! How few words are needed! It is the only real society."

> "He who has a thousand friends
> Has not a friend to spare,
> And he who has one enemy
> Shall find him everywhere."

Let us then, for our general and individual advantage, do what we can to promote real friendship amongst us. There can be no doubt that many a man has been driven to something approaching despair and has sadly failed in his work for want of nothing more than a real friend to whom he could have gone with his troubles and anxieties and by whose help his way might soon have become smooth again.

Let me here recommend to you the many societies which we have in this college, and of these more particularly the Medical Society. Since its formation in 1828 this has done excellent work. By all means join it, attend its meetings, and do not be a silent member. It affords excellent schooling in the art of speaking—a gift which, unfortunately, so few of us possess. We know exactly what we want to say, but once on our feet we do little more than perspire and splutter and lose our heads; the carefully thought-out sentences rapidly vanish; forty are begun but none ended; until, finally, we sit down, flurried and trembling, leaving our audience in the most blissful ignorance of what we hoped to convey to them. It is a gift worth much pains to acquire to be able in a few clear words to express our meaning, and the medical man will find it particularly useful if he can do this without the use of phrases which to the lay mind may be perfectly unintelligible.

To those who to-day are about to begin their practical work in the hospital how much might be said. Let us ever bear in mind that a hospital such as ours fulfils two great functions. In the first place it is a charity, and in the second place it is a training-ground for students of medicine and a centre for the advancement of medical knowledge—two functions of the greatest importance to the community at large. Now, contrary to what many persons seem to imagine, there can be no doubt that the work of the charity is all the better performed by reason of its connexion with a medical school—I mean that the presence of students in a hospital is certainly an advantage, and not a disadvantage, to the patients. I do not speak only of the many duties which the students in a hospital perform under the direction of the medical officers—duties which are all the better done by reason of that feeling of responsibility which, especially when first appreciated, is such a strong incentive to good work. I refer to the healthy criticism which stimulates into action the best efforts of those upon whom it is brought to bear. Who will venture to deny that a physician or surgeon sitting in the out-patients' room, and for several hours attending to the various complaints of the patients who come before him, will not do his work better and with less risk of some serious oversight when he is surrounded by a group of earnest students than when he works uncriticised and unobserved?

In his clinical work in the hospital the student will find that those habits of method and thoroughness which he has contracted in his earliest studies will prove of the greatest value to him. The two great faculties which the student of medicine should strive to cultivate are, first, the power of accurate observation, and, secondly, the power of drawing accurate conclusions from the facts observed—faculties not different from those aimed at in any form of education, general or special. In speaking of the education of the young it has been observed that "scientific training is not the imparting to others the results of someone else's observations, but the developing in every individual child a mind capable of making its own observations and of drawing its own accurate conclusions. It is not how much a child knows that matters, but how much a child is able to find out and learn for himself." It is better to have a store, scanty though it may be, of carefully made personal observations than a brain loaded to the full with facts said to have been observed by other people. From the very vastness of the subject it goes without saying that the student of medicine will find himself compelled to accept as true many facts which he has not the opportunity of verifying for himself, but these should not be one more than necessary, for they lack that reality which serves to impress facts personally observed. Gentlemen, no period of your career can compare as a training in the art of observation with that which is spent as clerks and dressers in the wards of the hospital. The cases with which you will then be individually concerned will, if rightly observed and investigated, serve as a very sure foundation of your experience of disease. Each case should be followed through with the utmost care, and no detail, however insignificant it may appear, passed by unnoticed. In many instances it may appear to you as though the elaborate details of the written records of the cases, for which you will be in part responsible, are superfluous, and the preparation of them a waste of time. There can be no greater mistake. The training thus obtained in the observation of the symptoms and physical signs of disease is invaluable, and even should the result of your labours be to show that the supposed patient is in reality sound, the time you have spent in coming to this conclusion will not have been wasted. You will often be called upon to decide whether an individual is in a state of health or disease, and before you are justified in stating that to the best of your belief no evidence of disease is present you must have left no stone unturned in your examination. There can be no doubt that many more mistakes in diagnosis result from incomplete examination than from faulty deduction. The latter is excusable, although serious; the former is less serious, but quite inexcusable. Each case thus thoroughly investigated and recorded will become fixed indelibly in the memory and will serve as a standard with which similar cases afterwards met with can be compared.

In this way alone can a living picture of a disease be obtained which will subsequently be of practical value. The knowledge thus gradually accumulated must of course be supplemented by systematic reading, but this must be kept in its right place and not allowed to take precedence of clinical work. The man whose only acquaintance with disease is that which he has obtained from the pages of a text-book is trusting to a broken reed, and it is proverbial that those who have the greatest store of book-learning are by no means always those who are best able to apply it practically, so that their opinion as to the nature and treatment of a case may be vastly inferior to that of a man whose knowledge, though much less than their own from the point of view of quantity, has been derived from practical experience. Therefore, above all things let your resolve be to see things for yourselves and not to take other persons' words for them. One case thoroughly investigated is worth more than a hundred merely seen.

From the day of its foundation thoroughness in clinical work has ever been the pride of University College Hospital. The hospital is not a large one and, comparatively speaking, is never likely to be, and yet some of the first clinicians of the last half century have received their training within its walls. But whilst urging the paramount importance of a few cases thoroughly observed I would not for a moment under-estimate the value of an abundance of clinical material. No two individuals even in a state of health are exactly alike, and still less are two examples of the same disease ever precisely similar. Every case will exhibit something new and will differ more or less widely from the standard or type with which we compare it, and thus we see the need for the cultivation and exercise of a wise judgment. This alone will serve to distinguish between the fundamental and the superficial. It often happens that the most obtrusive symptom which a patient presents, and of which he himself may chiefly complain, is of small importance as a guide in diagnosis compared with some less obvious sign apparent only to the trained observer. We very rightly entertain the greatest admiration for the man who possesses in a high state of development the gift which we call "clinical instinct." By this he is enabled often with astonishing rapidity to form a correct opinion of a difficult case by a process of the steps of which he is himself scarcely conscious. The ideal clinical teacher is he who not only possesses in a high degree of perfection this clinical instinct, but is also able to analyse for those who are less gifted than himself the train of argument by which he arrives at his conclusions. It is useless for the student to attempt to imitate such brilliancy, much as he may admire it; it is enough for him to keep a strict watch over his power of reasoning and satisfy himself that he has a good sound basis for any conclusion at which he arrives. By such means alone can he hope to gain any firm belief in his own opinion, and, having formed it, to stand by it resolutely, but not pigheadedly. Carlyle tells us that the gift which we call *genius* enables a man to express "what all men were not far from saying, were longing to say." Therefore, I take it, we should all be something more nearly approaching geniuses than we are if only we had the courage to say what we think or are longing to say. Let us learn, then, as Emerson bids us, "to abide by our own spontaneous impression with good-humoured inflexibility then most when the whole cry of voices is on the other side; else to-morrow a stranger will say with masterly good sense precisely what we have thought and felt all the time, and we shall be forced to take with shame our own opinion from another."

It may not be out of place for me to remind you of the necessity of being very broad-minded in your medical studies and of not allowing any special liking or aptitude for some particular branch to cramp your efforts in other directions. It is sufficient for the present that your aim should be to obtain such a sound general knowledge of the principles and practice of medicine and surgery as the few short years at your disposal will allow. This is an age of specialism, and before you know the names of the bones your relations and friends will be asking you what particular branch of practice you intend to adopt. Tell them "general practice" and let this be your aim. Specialism is absolutely necessary on account of the enormous scope of the science of medicine, and men must be found who will limit their efforts mainly to special branches, and by so doing attain to a degree of special skill and knowledge which is impossible to the general practitioner whose sphere of work knows no such narrow limits. The point, however, which at the present day seems to require more full appreciation is that no man has a right to style himself a specialist until he has already shown himself possessed of the knowledge required to equip him for general practice. In fact, some of the most celebrated specialists who could be named spent their earliest years in general practice until a special taste or success in some particular department led them to devote their attention exclusively to it. A specialist should know everything that is known about something, and something about everything else, whereas too often he knows something about something and nothing about anything else. Cavities have a natural charm for him, and gradually his view of life is apt to narrow itself to that which can be obtained through the particular speculum suited to the particular orifice which he has appropriated to himself. He becomes in course of time like the blind crabs in the caves of Kentucky whose eye-stalks still remain, but whose eyes have long since disappeared for want of use. A story is told, for the truth of which I would not vouch were it not transatlantic in origin, of an urinary specialist of this type who explained the presence of an ingrowing toe-nail as the result of the impaction upon the digit of an urinary calculus which he felt sure the patient unconsciously had passed per urethram. Every medical man who is not in general practice is a specialist, although the limits of his special branch may vary much in different instances. His proper function is to serve as a referee for the general practitioner in special cases, and it is certain that the public will live to regret it if they go too far in deserting the good old custom of entrusting themselves to the care of the well-tried family medical man and instead allot their various members and organs to the charge of special custodians. Turn to Oliver Wendell Holmes's "Over the Teacups" and hear what conclusion the Counsellor's friend came to: "Following my wife's urgent counsel I kept on for a whole year with my specialists, going from head to foot, and tapering off with a chiropodist. I got a deal of amusement out of their contrivances and experiments. Some of them lighted up my internal surfaces with electrical or other illuminating apparatus. Thermometers, dynamometers, exploring tubes, little mirrors that went half way down to my stomach, tuning forks, ophthalmoscopes, percussion hammers, single and double stethoscopes, speculums, sphygmometers,—such a battery of detective instruments I had never imagined. All useful I don't doubt, but at the end of the year I began to question whether I shouldn't have done as well to stick to my well-tried practitioner. When the bills for 'professional attendance' came in, and the new carpet had to be given up, and the old bonnet trimmed over again, and the seal-skin sack remained a vision, we both agreed, my wife and I, that we would try to get along without consulting specialists except in such cases as our family physician considered to be beyond his skill."

We are indeed at the present day possessed of a wondrous "battery" of means for the investigation of disease, many of the greatest value, some requiring much skill for their right application, but all worthy of our most careful study. The physician who suspects tuberculosis proceeds to search for the bacillus tuberculosis in the secretions and discharges and may even resort to experimental inoculations; he confirms his diagnosis of typhoid fever by observing Widal's remarkable reaction, and in a doubtful case of diphtheria forms his decision by noting the character of the growth of micro-organisms obtained from it. The surgeon calls in the aid of the microscope to clear up his doubt as to the nature of a tumour; he trusts to the Roentgen rays to tell him whether he is correct in his diagnosis of fracture; and frequently has resource to that valuable, but sometimes abused, investigation—an exploratory operation. All these and many other such methods are of the greatest value if rightly used, but there is just this fear that in our eagerness to resort to them we may at times be inclined to neglect those more ordinary methods of examination which can be conducted by the skilled eye, the educated touch, and the trained ear. Let us not use our naked eyes the less carefully because we are enabled when necessary to supplement them by oil-immersion lenses, not pay less regard to all the clinical features of some obscure abdominal tumour because in the end we intend to expose it by operation and see what it really is.

Gentlemen, I must soon close or you will be inquiring whether my vocation in life is to preach or to practise, but before doing so I would ask you to bear in mind that you will lose much of the value of your hospital work unless while you are learning how to deal with disease you learn

also how to treat the patients. Be kind and courteous to them, for an ailment which to us may be trivial and possessed of but little interest is to them a very real and serious affair, and they will naturally be disappointed and distrustful if they notice that we regard it as a matter of little concern. Much patience and tact are often required to extract the information we require, whilst considerable skill is often called for rightly to interpret the answers to our questions. It is needless to say that no gentleman will adopt one plan of treatment for the poor in the hospital and another for the well-to-do outside it. Further, the student, whilst performing the duties of even the most humble appointment, should appreciate the fact that the work he does will reflect either to the credit or discredit of his hospital, according as it is carried out thoroughly or carelessly, and that a very little pains more or less on his part may make just the difference to the comfort and welfare of the patients with whom he deals. Those who after receiving their qualifications are fortunate enough to obtain resident appointments in the hospital cannot too fully appreciate the responsibility of the position they occupy. In duty to themselves they should endeavour not to miss a single one of the many advantages for practical study which hospital life affords them. In duty to the institution they must recognise the dignity and grave responsibility of the work which they have voluntarily undertaken. In duty to the more junior men, who will take their standard from them, they must be punctual, thorough, and painstaking; for of this I am sure, unless a remarkable change has occurred in the few years since I was a student in the hospital, that the clerks and dressers look more to their house physician or house surgeon than to the members of the staff for their first lessons in the practical aspect of their work, and the resident officer who neglects this part of his duty is missing a splendid opportunity, for there is no better way of teaching oneself than by endeavouring to teach others.

We are rejoicing to-day in the magnificent service which Sir Blundell Maple has done to University College, and many of you will have the privilege of enjoying at least some of the advantages of the new hospital. Since the day of its foundation as a humble dispensary on Sept. 28th, 1828, University College Hospital can show a record of work of which we may well be proud, and it is not without a passing pang that we realise that the old building will soon be numbered among the things of the past. May a double portion of the spirit of energy and enthusiasm which has stimulated our workers in the past fall upon those who shall be privileged to carry on their labours among the far more favourable surroundings of the future. May we never merit the reproach that we have missed the splendid opportunities which lay before us. Gentlemen, we pride ourselves on our past achievements, but we must not live upon them alone. The future is ours, and we have the making or the marring of it. It is to you, gentlemen, who year by year come forward with fresh instalments of enthusiasm that the College looks to make her reputation in the past an earnest of great deeds in the future. Were I possessed of the highest eloquence and powers of oratory they should all be employed in my endeavour to fire you with enthusiasm. Successes and failures must come to each one of us. Let success be an encouragement to further efforts and not an inducement to rest upon the laurels gained. Let failure not dishearten us, but rather stimulate our energies to follow it with success. And if at times you feel despondent do not give way to despair—"Look not to the mournful past—that comes not back; wisely improve the present—it is yours; go forth into the future without fear and with manly heart."

HOME FOR CRIPPLED CHILDREN AT GOSFORTH.—A new Home for Destitute Crippled Children was opened at Gosforth, Northumberland, on Sept. 30th, by Mrs. Hilton Philipson, who unlocked the principal door with an ornamental golden key in presence of a large and influential gathering. The institution provides accommodation for 110 boys and girls; it has cost about £10 000, and continues the work of the former home at Wallsend. The annual report was read, in which it was stated that the building fund had reached a total of £8500, leaving about £1500 still to be raised. Mr. Hilton Philipson had contributed £2000 to endow five cots, in addition to a sum of £1100 which was given by him at the commencement of the home's career in Wallsend, and which formed the nucleus of the building fund.

Remarks

UPON

CANADA: ITS CLIMATE AS A HEALTH RESORT AND ITS POSITION TOWARDS MEDICAL SCIENCE.

Being the Introductory Address delivered at the Middlesex Hospital Medical School on Oct. 4th,

BY LORD STRATHCONA AND MOUNT ROYAL, G.C.M.G., &c.,

HIGH COMMISSIONER FOR CANADA, AND CHANCELLOR OF MCGILL UNIVERSITY, MONTREAL.

GENTLEMEN,—While appreciating most fully the honour of being asked to address the students, past and present, of the Middlesex Hospital School and to distribute the prizes I must confess that my idea of what the duty of doing so involved fell far short of the reality. It occurred to me that at the most a few words of a more or less formal character would be all that was needed, and only quite recently did I begin to realise what is expected on such an occasion. A little more consideration, instead of consenting rather hurriedly to comply with the request, might have led me to hesitate to accept the very kind and flattering invitation of the Council conveyed to me through Dr. Pasteur, the Dean, especially now that I call to mind the eminent men who have preceded me in the position. Yet I am glad to be here, since I regard the medical profession as one of the noblest of all the professions in view of the great service it has rendered, still renders, and unquestionably will continue to render, more and more to mankind. And, again, no one more thoroughly recognises than I do the immense utility—indeed, the absolute indispensability of the great hospitals—among which the Middlesex Hospital has played so important a part for over a century and a half. They supply the best medical advice and assistance to those among our suffering humanity who are not able to pay for the attention they are thus enabled to receive gratuitously; and the opportunities they afford of raising to a still higher standard education both medical and surgical, and in connexion with the training of skilled nurses—now so essential an adjunct to the medical profession—cannot be over-estimated.

It has been my privilege within the last few weeks to be in Canada during the meeting of the British Medical Association in Montreal, and I am glad to be able to refer to its success from every point of view. It was a happy idea that such a *réunion* should take place in one of the outlying portions of the empire, especially in the present year, when Imperial sentiment seems to have shown a vigour not previously witnessed, and when the Dominion of Canada and the colonies of the empire have been brought much more closely towards the mother country than they have ever been before. The fact that two great associations like the British Association for the Advancement of Science and the British Medical Association should both in one year hold their annual meetings in Canada is proof in itself of the improvement that has taken place in the means of communication between the different parts of the world. It tends further to show the colonies that the term "British" includes them, and that they are as much a part of the empire as any of the counties or divisions of the United Kingdom. Nothing but good can result from the opportunity of the interchange of thought between the medical men of the United Kingdom, Canada, and the United States, and I venture to think that the greatest possible benefit will follow the recent successful meetings of these important bodies. We were delighted to welcome the British Medical Association in Canada for many reasons. It was doing the country an honour that they should visit us, and it was felt also that the occasion would afford the opportunity to a large number of men of light and leading in the medical profession to form an idea of its climatic advantages, of its position as a health resort, and as a new field for travel in the case of those requiring both rest and change—without the necessity of giving the change to the waiters and the rest to the keepers of the hotels, which has

humorously been said to be the net result of a good deal of the foreign travel which takes place. In the western districts of Canada—that is, on the prairies—the air, from the altitude of the plains, is very dry and bracing, and a stay there has been found to be very beneficial in cases of lung and chest troubles. This is becoming recognised in the United Kingdom, and many persons who have suffered from pulmonary complaints and affections of the kind have been practically free from them while staying in the Dominion. This is also the case in the Rocky Mountains, among the pine forests, and the Kamloops district; and the establishment in that district of a large institution in the nature of a sanatorium is seriously contemplated. There are likewise medicinal springs to be found in places, not the least known among them being the sulphur springs of Banff, where water of a temperature of 100° and upwards flows from the sides of the mountains. They are now visited by invalids from Canada and the United States, and no doubt their fame may some day extend to England. Canadians are proud of their country. They are anxious that it should be better known among their fellow subjects in the mother land than it is to-day, and we are quite certain that those ladies and gentlemen who visited the Dominion this year as members of the two associations already referred to will return with feelings as warm as our own for what we regard as not the least important part of the British Empire.

The practical annihilation of space resulting from improved means of communication was strikingly illustrated to me a few years ago during the lifetime of my late dear friend, Sir Andrew Clark. A young man of good family was taken seriously ill in British Columbia. He was in a critical condition, and his friends were naturally most anxious about him, especially in view of the 6000 miles that separated them. It was arranged by the courtesy of the Cable Company to have a conversation between London and Victoria during the night—Sunday night it was—when the cables and telegraphs were not much engaged. Sir Andrew Clark kindly framed some questions to be put to the medical adviser of the distant patient. From the office in London messages were interchanged as rapidly as they could be transmitted, the symptoms were explained, and the treatment discussed, and I am happy to say that the young man recovered. Of course, I do not mean to imply that this was the direct result of the telegraphic communication, but it enabled the friends of the young man to be assured that everything possible was being done for him, and the practitioner in Victoria had the benefit of the opinion and advice of the eminent and good man with whom it was my privilege to be on terms of friendship for many years.

You will, I think, be interested to learn that the training of the medical profession in Canada has made much progress in the last few years. Year by year large numbers of young men are trained and qualified in practice, and many of them visit England and the Continent after obtaining their degrees in order better to prepare themselves for the important work to which they propose to devote their lives. The excellence of the instruction given in Canada and of the clinical advantages that are available are demonstated by the fact that it is the exception for any of the Canadian graduates to fail in the examinations for degrees on this side. There are eleven medical schools in Canada. The oldest as well as the largest is that of McGill University, Montreal, which is now entering upon its sixty-seventh session. Many of the requirements and advances in medical education on the American continent were first instituted there. It is the only Canadian medical school that has an endowment (derived from benefactions from the citizens of Montreal), the others being dependent on the students for carrying on their work. All the Canadian medical schools require a four years' course, with sessions of from eight to nine months, and the methods of teaching follow closely those of the English and Scotch schools. The Faculty of Medicine at McGill is always kept up to date. The latest improvement is the equipment of the Museum of Public Health, and considerable additions have also been made to the Laboratory of Experimental Pharmacology. It is now four years since the department of hygiene was established, and part of the interest of the endowment was set aside to provide a Museum of Public Hygiene and Preventive Medicine. This has been allowed to accumulate for the last few years in order that a sufficient sum might be available to make a good start. The museum occupies three rooms in the medical building, and at present is chiefly of interest on account of the number and excellence of the working models illustrating the best modern methods of sterilisation, disinfection, filtration, and ventilation, together with a very useful collection of modern sanitary apparatus. It is expected that the museum will be found of great advantage in connexion with the lectures on public health, which for the future are to be regularly given. The students have also the advantage of the pathological laboratory at the Royal Victoria Hospital, which is admitted to be one of the most complete and instructive of any to be found either in America or in this country. While touching upon the question of education it is right to mention that medical students in most parts of Canada have the advantage of attending many excellent hospitals in the different centres of population. This is especially the case in Montreal, and members of the British Medical Association are said to fully appreciate the work that is being done by hospitals in that city and the manner in which the institutions are equipped. Some of the Canadian hospitals will compare more than favourably with institutions of the kind in the provincial towns of the United Kingdom, and even with many of those to be found in the great metropolis. Within the last few years, also, the training of nurses has attracted much attention, and numbers of these devoted women are to be found pursuing their noble work in every part of the country.

I regret I am not able to say that the position of the medical profession in the different provinces of Canada is as satisfactory as it might be in some respects. Licences to practise are issued by the medical boards in the different provinces, but they are only tenable in the provinces in which they are granted. A graduate in one province could practise in another on carrying out the local conditions, but in my judgment a licence issued in one part of Canada should entitle the holder to carry on work anywhere within the limits of the Dominion, and, indeed, in any part of the empire. The granting of authority to practise medicine should be under the control of a Dominion medical board as a matter affecting the community in general, and there should be uniformity in regard to the standard of study and the qualification to practice. The absence of facilities of this nature in Canada also operates to prevent Canadian medical men practising in the United Kingdom. They cannot be placed upon the registry for that purpose at the present time on the strength of their local qualifications until the Act of 1886 is extended by Order of Council to the provinces of the Dominion. This has not yet been done, as none of the provinces have passed the legislation necessary to enable reciprocal treatment to be extended to graduates from the United Kingdom. The matter is, however, receiving attention in the medical profession, and we trust it will not be long before the difficulties to which attention has been called are removed. No inconsiderable part of my life has been passed in some of the less populated districts of Canada where members of the medical profession were conspicuous by their absence. In fact, I hardly think I saw a medical man for a period of fifteen or sixteen years. Perhaps with some the introduction of the profession was not altogether popular, and there may have been an idea that when medical men were about complaints and sickness were rife and that little or no trouble of the kind existed and no malingering among the work-people when the medical man was absent. This no doubt resulted from the good health they experienced themselves in the salubrious surroundings of the northern climate in which they passed so many years of their lives.

You may be interested, perhaps, to learn something of the condition of things in the part of the Dominion to which I refer—the coast and inland district of Labrador—from the medical point of view, at any rate so far as they can be told by a layman. There is always a large mortality among the native children, resulting largely from lung diseases, and adults suffer a good deal from similar complaints. Rheumatism and affections of that kind are little known. Fevers are more or less common, but few of the organic diseases of civilisation are prevalent, and insanity and nervous diseases are more or less unknown. The people cannot be said to be long-lived, although exceptions occasionally occur, and from fifty to sixty years is regarded as a good age. It is very rare that one sees a bald head among the natives, and the hair does not change much in colour with age. So long as the natives keep to their own food and habits—they live largely on meat and fish, always cooked, and upon wild berries and fruits—they

generally retain their teeth. In fact, I have seen teeth worn almost to the gums without showing signs of decay. But in the case of the natives from the interior who adopted the food of the white men they soon lost their teeth; and from indigestion, and it may be from other causes incident to the change of living, their lives were often shortened. Although the climate is severe and the summers are short the country is healthy, and no doubt the open-air life conduces to freedom from disease. With regard to the treatment of disease they have their own remedies. A form of Turkish, or rather vapour, bath has been in vogue among the natives as far back as we have any records. They rig up a small tent, put stones that have been intensely heated inside and pour water upon them, and then take the bath. This is regarded by them as the most beneficial treatment in many complaints. They have also their decoction of herbs and they understand the preparation of nourishing foods, which are given in cases where there is a failing of strength and vitality. In the case of lung diseases they have much faith in the virtues of a decoction made from boiling crushed bones and marrow, and it is largely used. Small-pox is, of course, known, although fortunately it is not common, and vaccination has been accepted by the Indians cheerfully as a preventive measure. Amputations are occasionally performed by the natives themselves, or by the European and Canadian residents, in a primitive way. This is inevitable in that part of the country where medical men are often hundreds of miles away, but in this connexion I must refer to the improved state of things which has resulted in the last few years from the organisation of the Medical Mission to Labrador under the auspices of the Deep-sea Mission, whose hospital steamer patrols the coast during certain seasons. The mission extends medical relief to the inhabitants requiring it, and provides limited hospital accommodation throughout the year at one or two places.

It may interest you to know that what may be termed a primitive and somewhat rude form of antiseptic treatment was practised in the district many years before Lord Lister introduced his great discovery. For the treatment of wounds, ulcerated sores, &c., a pulp was made by boiling the inner bark of the juniper tree. The liquor which resulted was used for washing and treating the wounds, and the bark, beaten into a plastic, pliable mass, was applied after the thorough cleansing of the wound, forming a soft cushion lending itself to every inequality of the sore. Scrupulous cleanliness was observed and fresh material used for every application. It will, I think, be admitted that this is essentially the basis of the antiseptic treatment which is now so important, and with which the name of Lord Lister will ever be honourably associated. It shows that while discoveries and inventions are being made in centres of the highest civilisation they may yet be practised in a primitive way in distant and more or less inaccessible localities of which scientists may at the time be unaware. Perhaps I may be permitted to relate to you another little interesting experience which came to my notice. On the Labrador coast thirty or forty years ago there was a serious outbreak of scarlet fever accompanied with diphtheria. Many of the people died, both children and adults, and the survivors were so alarmed by the spread of the disease and its fatal results, and were in such an abject state of fear, that they kept away from the houses in which people were known to be suffering. There is little doubt in my mind that many of the persons died from simple dread of the disease and the fright occasioned by the mortality. An officer of the Hudson Bay Company visiting the settlement found this state of things existing. It was reported to him also that the family of a former employé of the company, a Scotsman, had taken the disease at a place some twelve miles distant. The official mentioned went there and found the whole family confined in a small hut, the different members being scattered over the floor, and, in fact, in any place where room could be found. The door was shut and so were the windows, and the odour that came when the door was opened can best be left to the imagination. One of the family, a boy, had died, and was lying in an outhouse. The first thing to do was to break open the window and let in air, and then to administer some remedies. All the other members of the family recovered, and the utter helplessness and abject terror which had previously prevailed among the inhabitants were at once changed into a feeling of hope. They saw that death was not inevitable, and, happily, although the disease still lingered on for some time, not a single fatal case was subsequently recorded. I merely mention this to show the moral effect of the return of confidence, which resulted from the death record having been temporarily stopped by the exercise of a little common sense. Another curious incident comes to my recollection. A resident in the country returned to England in consequence of a severe illness. He consulted the best medical men, and his case was diagnosed as one of Bright's disease. He was told that he could not last more than a few months, and made up his mind to return to Labrador to end his days; but the unexpected happened, and he lived for many years afterwards. Some of the natives knowing of his complaint, or, at any rate, of the symptoms, advised him to prepare a decoction from the juniper shrub and to drink nothing else for several months. In despair he did what was suggested, and after some time appeared to be perfectly cured. It is not claimed, of course, that the recovery was due alone to the efficacy of the remedy; it may have been that the case was imperfectly diagnosed or that a mistake had been made, but the circumstance shows the local belief in native remedies, and that not a little attention is paid to natural medicine and to the properties of the trees and shrubs which are found in the country even in the absence of any skilled knowledge of botany or experience of medical science.

A point suggests itself to me which may not be without interest to some of you. It is in connexion with the relative value of a meat and fish diet in respect to health and sustaining powers. A very general belief prevails, I think, that meat is the more nutritious and strengthening of the two, but this is not borne out in the experience of the Hudson Bay Company. In former years in certain districts the food of the employés was almost solely the flesh of the buffalo, deer, &c. In others it consisted mainly of fish. Opportunity was offered for testing the merits of the different foods each spring when the brigades of boats were on the way out with their furs. In these circumstances there were naturally trials of strength in rowing, and in the result the fish-eating crews invariably had the advantage, especially in long-sustained efforts. This proves, it appears to me, that theory and practice in these matters do not always coincide.

I hope I am not wearying you with these little incidents which I have come across during my life in Canada, but it has been suggested to me that I might relate to you an experience that came under my observation as showing the tenacity of infection, although it relates to animals and not to human beings. About forty years ago there was an epidemic among the dogs in the Arctic regions, and I need hardly impress upon you the consternation which it caused, seeing that in those parts of the world the dogs provide the only means of communication between the different districts during the long winter. The disease, which was not the ordinary distemper, came from the far north, indeed, as far north as the Esquimaux were to be found, and gradually spread itself south along the Labrador coast in the course of two years. The dogs which caught the infection were seized with vertigo and within a few hours death ensued. I knew of a dog that had not been within 100 miles at the time of any infection. An Esquimaux, however, arrived one day in the depth of winter, after a journey of more than 100 miles, which took him about eight or ten days, and in the intervening period he had not been in contact with any dogs. On his reaching the place the dog, knowing him, jumped upon him and gambolled about. The next day it was taken with the malady and in a few hours was dead. The assumption is that the man's wallet, in which he carried his letters and belongings, had been in contact with dogs at other places, and that the infection was conveyed in that manner, notwithstanding the intense cold which prevailed. It might be mentioned as a curious coincidence that only the native dogs suffered from the affection, whatever it was, and that dogs of the smaller types escaped either entirely or at any rate with slight attacks. As already suggested, the Hudson Bay posts became in a way medical centres in the districts in which they were established. The officers, for their own benefit and for the benefit of the natives, tried to acquire a certain amount of medical skill from text-books, and of course they were supplied with the simple remedies for certain diseases. They were also called upon to practise surgery, amputations having occasionally to be performed, especially as the consequence of the extremities being frozen in the severe climate of the far North. Many of them acquired more than a local reputation,

and there is reason to believe that bread pills and simple lotions, accompanied by faith, have effected marvellous cures.

But I am sure you have had enough of these personal experiences, and I should like to take the advantage of saying a few words on the subject of Canada. The proportion of medical men is fairly large in the Dominion, although not so large as in the United States. There are, however, large parts of Canada, particularly in the West, that are not yet occupied. That they will afford homes to millions of people in the more or less near future is as certain as that I am standing here, and there will thus be new fields continually being found for the activity of the students graduating every year, the numbers of which are ever on the increase. At the same time we do not encourage young medical men to go out from this country to Canada in search of employment for their skill unless they have friends in the country or are not dependent upon immediate work for their subsistence. The demand for medical men is amply met by the supply on the spot, although the old axiom that there is always room on the top of the ladder applies equally to Canada as elsewhere. You have no doubt seen recently that the few medical officers in the newly opened up goldfield of the North-West Territories in the Yukon district seem to be reaping a golden harvest, and £40 a visit has been mentioned as a common thing. I hope this will not encourage any of my audience to go out this year. The country is difficult of access, the mode of living is necessarily rough, and the expenses are great, so that notwithstanding the high fees that may rule for a time (and they can only be temporary) there are compensating disadvantages which have to be carefully considered.

In conclusion, will you allow me to say that in my opinion it cannot be too strongly impressed upon medical students that an important heritage descends to them that they have to maintain the reputation of the school, built up by those distinguished men who have gone before them, and that great opportunities are open to them, as the result of their studies and investigations, of making life more pleasant and happier. It is only right, in my judgment, that the qualifications of graduates should be submitted to a severe test before they are allowed to practise; and, on the other hand, it seems to me to be a duty belonging to our legislators to see that persons without such qualifications are not let loose upon the community. Further, it is surely desirable that every proper means should be used to prevent quackery and to restrict the wide and unrestricted advertisement of nostrums. In fact, I should like to see a great deal more done to protect, promote, and encourage, in the interests of mankind, the beneficent work of the medical profession. Eminence in your profession, or, indeed, in any of the higher walks of life, cannot be attained without much labour and application. Indeed, it has been said that medical men must always remain students, and no one who has thought of the subject at all will dispute the statement. May I therefore venture to earnestly impress upon my audience the necessity of steady work and perseverance? It may appear at times tedious and tiresome, although such feelings are almost impossible when one's heart is in one's work. But success cannot be attained without effort, and for the ambitious man, the man who wishes to build up a reputation and to improve the condition of his fellow men, I know of no more attractive and inviting field than that offered by the medical profession. Besides, there is the competition which has to be faced in modern times. This may be good for the community, but it is also good for the profession, for the man of ability, the man of method, the man of investigation, must always come to the front. We often hear of certain persons of transcendent ability. In almost every case it is known that such a reputation has been made by indomitable perseverance and by abiding application, and does not so much depend upon any inherent pre-eminence in the individual. I trust you may agree with me in thinking that the attainment of the highest standard is open to the majority of our fellow men—that, given a sound body, ordinary intelligence, and a fair education to start with, any man who applies himself with all his might, and who will allow nothing to draw him aside from his purpose, may, apart from that ethereal, and might I dare say mythical, thing called genius, succeed in doing whatever others have been able to accomplish. At any rate, it is always safe for a young man to keep such an ideal before him. It is far from my desire to preach, but I have lived a good many years, and I am sure that what is true in other professions applies with much greater emphasis to the medical profession. I have only now to thank you very much for the patient hearing you have given to the disconnected remarks I have ventured to make, and to assure you that I shall always take great interest in the welfare and success of the Middlesex Hospital and of its medical school.

A THEORY OF ACTIVE AND PASSIVE IMMUNITY FROM THE BACTERIA OF CHOLERA, TYPHOID FEVER, AND THE LIKE.

BY PROFESSOR MAX GRUBER,
OF VIENNA.

Communicated by HERBERT E. DURHAM, M.B., B.S. CAMB., F.R.C.S. ENG.

THE experimental observations which have been made by myself, conjointly with Mr. Herbert E. Durham, during the last eighteen months upon the microbes of cholera, typhus abdominalis, &c., lead to the following conclusions in regard to the origin and nature of the immunity produced by means of these microbes:—

1. A high degree of long persisting immunity can be obtained by means of intra-peritoneal injections (in guinea-pigs) of microbes killed either by chloroform or by exposure to a temperature of 60° C. Such killed cultures of cholera, and other vibrios, of typhoid, and coli bacilli, &c., have little or no poisonous properties; the guinea-pigs show trifling symptoms in the course of treatment; they recover rapidly, even when such large doses as 0·5 gramme per 1 kilogramme are eventually exhibited. The only constant symptoms arising from these injections are to be attributed to the peritonitis, which is caused by the proteins of the bacteria. It follows from these facts that the dead bodies of the bacteria are not poisonous in themselves; and, furthermore, that the immunising constituents of the bacteria are not identical with the bacterial toxins.

2. The animals, when immunised by this method against the above-named bacteria, are truly infection-proof, but they are by no means toxin-proof. At the present time we are not dealing with toxin-proof immunity; and we are far from saying that animals cannot be rendered proof against the toxins of the above-named bacteria by the use of suitable methods.

3. The destruction of the bacteria takes place through the medium of the juices in actively immunised animals as well as in animals which are protected passively by means of the serums of immunised animals. This fact has been correctly observed and emphasised by Pfeiffer. The (polynuclear) phagocytes only play a secondary and comparatively unimportant part in the process.

4. Protective or antagonistic substances (antikörper) are always present in the blood and juices of the immunised animals. They are already formed and are not suddenly produced at the moment that a further inoculation is given, as has been asserted.

5. Both in actively and in passively immunised animals these substances (antikörper) react directly upon the bacteria, whether the contact occurs within the body or *in vitro*. There is no evidence that they undergo any changes or transformations in conjunction with the normal juices when animals are protected passively by their aid.

6. These protective substances are the characteristic constituent of the blood and juices of immunised animals. They are not capable of actually killing the bacteria by themselves.

7. The actual destruction of the bacteria is effected in all animals, whether actively or passively immunised, by means of the alexins of Buchner. These alexins are general protective substances entirely without specific action; they are universally present in all animals. Phagocytosis only takes a secondary share in the destruction.

8. The essential action of the protective substances of the blood and juices of immunised animals consists in making the bacterial cell walls adhesive. This is shown by the fact that

the bacteria become sticky when treated by these juices; in consequence, they adhere together in clumps and lose their motility. This fundamental phenomenon in the action of protective sera has been entirely overlooked by Pfeiffer and his pupils (see note appended); it has been seen by Metchnikoff and Bordet, but they have neither recognised its importance nor its true meaning. On account of this fundamental action we propose to call the specific antagonistic substances of immunised animals "agglutinins."

9. The agglutinins act upon the sheaths of the bacteria and make them more penetrable. The alexins are enabled thereby to reach the bacterial protoplasm and to destroy it—in other words, to kill the bacteria. This process takes place quite indifferently inside the living animal or *in vitro*, the only condition necessary being that both agglutinins and alexins are present.

10. The agglutinins are used up during the process, perhaps by chemical combination or perhaps by actual destruction. It therefore follows that the extent of action of the juices of an immunised animal is directly proportional to the amount used.

11. Active immunity never occurs without evidence of the presence of agglutinins.

12. Active and passive immunity are identical in nature. Both forms of immunity depend upon the presence of agglutinins.

13. It has been asserted that active immunity persists even after complete disappearance of the protective substances—that is to say, after the tissue juices have lost the power of conferring a specific passive immunity. This in reality is only the expression of the fact that the degree of concentration of the agglutinins gradually diminishes as time goes on; eventually the proportion of agglutinins present is insufficient to be effective in producing passive immunity.

14. I have been able to prove the presence of agglutinins thirteen months after the last immunising injection. How much longer they persist I am unable to say, as at present I have not any animals which have been kept a longer time since their last treatment.

15. Agglutinins are specifically different. Each kind of bacterium has its own kind of agglutinin.

16. The influence of these specific agglutinins is, however, not limited specifically; it shows gradations in intensity of reaction, the maximum intensity of action being manifest upon its own kind. On other species the action is the more intense the more closely allied the microbe is to that by means of which the agglutinin was prepared.

17. Pfeiffer's assertion that an absolute specificity exists in the action of protective sera is not in accordance with, or supported by, observed facts.

18. The agglutinins are without doubt derived from certain constituents of the bacteria themselves (specific proteins?). They are produced only in the bodies of actively immunised animals, probably by combination with some constituents of the animal body. The site of production is perhaps in the macrophages; these cells ingest and destroy the polynuclear leucocytes which are laden with bacterial products.

19. The above conclusions are drawn from experiments with the microbes of cholera and allied vibrios, of typhoid fever, and the like. In diphtheria and tetanus other factors are probably present.

Note by MR. DURHAM.—Professor Gruber has kindly invited me to give some of my own views on the subject of the above remarks. In the first place it must not be thought (*vide* Conclusion 1) that agglutinins are present solely in animals treated according to the manner described. It appears to be quite indifferent whether the bacteria used in the immunisation are living or dead in so far as the production of agglutinins is concerned; moreover, lately I have proved that immunisations carried on with germ-free filtered products also give rise to the presence of agglutinins. It goes without saying that the avoidance of inoculating with living microbes has great advantages in the immunisation of animals. With regard to the toxicity of the bacterial bodies it is interesting to note that Pfeiffer himself admits that the killed bacteria are not less than twenty times less poisonous than the living bacteria,[1] 12 milligrammes of killed culture being equivalent to 0·6 milligramme of living cholera vibrios, although he has long been the champion of the pretended great toxicity of dead bacterial bodies.

It must not be understood that the substances which we have termed agglutinins are only able to cause susceptible microbes to gather together in clumps or flocculi; they also act as inhibitors to the growth of the organisms, as also to the formation of metabolic products. For instance, pyocyaneous serum inhibits the formation of pyocyanin, and the serum of a phosphorescent vibrio can annul the phosphorescent power of this vibrio, as I recently demonstrated to the Fellows of the Royal Society. These and many other facts point to a weakening of the microbe by the direct action of the agglutinins upon them, and I cannot but think that this influence is exerted upon the bacterial protoplasm rather than upon the dead sheaths of the bacteria. It is well known that in the face of highly virulent microbes both alexins and phagocytes are unavailing, whilst with the microbes of a low degree of virulence these means are ample for ensuring the destruction of the microbes. By the use of an appropriate kind of serum an extremely virulent microbe can be made non-virulent in a few seconds, or possibly in less time, so that it degenerates when brought into contact with alexins.

I have shown that the requisite degree of weakening can be obtained by heating an emulsion of bacteria to a sufficient extent; the bacteria are then unable to withstand the alexins and they degenerate rapidly. That the protoplasm of the bacteria is the most important part of the micro-organism there can be no doubt, and the above facts appear to me to point to the conclusion that the prime action of the agglutinins is upon the bacterial protoplasm. This is further shown by the influence these substances have upon the naked protoplasm flagella of the microbes; the agglutinins paralyse their movement. In extremely diluted sera some individuals can be seen to stick to one another without doubt by their flagella; they rotate madly about their fastened extremity. So that it is evident we are dealing with something more than a mere increase of adhesiveness of the surfaces (sheaths) of the bacteria, which stickiness may, after all, be due to some sort of secretion.

Although the amœbocytes, especially the polynuclear leucocytes (*vide* Conclusions 3 and 7), only play second string to the extra-cellular agents in the destruction of bacteria, yet it must be admitted that their action as scavengers is by no means unimportant in ridding the animal of its unwelcome parasites. Personally I am inclined to regard the polynuclear amœbocytes as very important agents in the broad field of bacterial destruction. In my paper before the Royal Society, and in a paper which will shortly be published in the *Journal of Pathology*, I have avoided the term "specific" as inappropriate (*vide* Conclusion 15); in its place I suggest that the words "special" and "specialise" should be used as they designate the reality more accurately. In conclusion, Pfeiffer has quite recently shown that even after his long years of study on the "specific" action of the sera in typhoid fever and cholera he has at last recognised the fundamental fact of the action of agglutinins.[2]

[1] Deutsche Medicinische Wochenschrift, Nos. 7 and 8, 1896.

ON FOUR CASES OF GOITRE TREATED BY OPERATION, AND CERTAIN DANGEROUS SYMPTOMS WHICH MAY FOLLOW THE OPERATION.[1]

BY A. J. RODOCANACHI, M.D. LOND.,
LATE HOUSE SURGEON, UNIVERSITY COLLEGE HOSPITAL.

THESE four cases of tumour of the thyroid gland were operated upon during the time I was house surgeon at University College Hospital. Three of the cases were under the care of Mr. Horsley and one was under the care of Mr. Heath. My purpose is especially to investigate the meaning of certain symptoms which were present in two of the cases with a fatal result in one—symptoms well known to

[2] Pfeiffer and Kolle: Deutsche Medicinische Wochenschrift, March 19th, No. 12, 1896. The following papers may also be consulted; M. Gruber (abstract): Münchener Medicinische Wochenschrift, No. 9, p. 206, 1896; (longer paper) Wiener Klinische Wochenschrift, Nos. 11 and 12, 1896; H. E. Durham (abstract): Proceedings of the Royal Society, Jan. 3rd, 1896; and Brit. Med. Jour. (epitome), March 14th, 1896, p. 44.

[1] A paper read before the Medical Society of University College, London, Feb. 9th, 1897.

all who have had experience of thyroid disease, but about which not much has been written.

CASE 1.—A married woman, aged forty-nine years, was admitted to the hospital on Feb. 20th, 1896. She had a very large cystic thyroid gland involving both lobes and causing serious dyspnœa by pressure on the trachea. The dyspnœa was very marked and prevented her from lying down, so that she slept propped up in bed. In spite of this she had continued at her work until a few days before admission, and she insisted on walking upstairs to the ward, but arrived at the top of the stairs in a very alarming condition. When quiet her pulse was 116 and her respirations were 40 per minute. On the next day Mr. Horsley operated. The right lobe of the thyroid gland, which was the larger, was dissected out through a free incision, all the vessels being clamped before they were cut. A cyst on the left side was afterwards enucleated, but it was ruptured during removal and a good deal of the pale brown contents necessarily escaped into the wound. The trachea was found much compressed—reduced almost to a slit. No irrigation was employed, but the wound was closed, a small drainage-tube being inserted at the lower end. The patient bore the operation very well considering her previous weak condition; there was but little shock and the breathing was immediately relieved. The wound was dressed at 9 P.M. (six hours after the operation). There was, as usual in these extensive operations on the neck, very considerable oozing, which had soaked through the dressing. The patient felt very comfortable, the pulse was quiet, the respiration had been relieved, and she expressed herself very hopeful as to the result. She continued like this in a quiet, comfortable condition, taking occasional sips of milk, until 1.30 A.M. Then suddenly her symptoms changed completely. She became extremely restless, tossing herself about in bed. This was the most striking symptom, as previously she had been a very tractable patient. The pulse ran up to about 180; the respirations became very rapid (from 50 to 60) and shallow, but not embarrassed; there was no stridor. Whereas previously she had been hopeful, she now declared she knew she was about to die—a declaration one does not treat lightly when coming from a person not known to be hysterical. The temperature, taken in the axilla, was found to be 99·2° F. I gave her three minims of morphia hypodermically in order to quiet the restless condition, hoping she might sleep off these effects and wake up better. She remained quieter for a time, but the symptoms returned and she was about as before only weaker when I saw her again at 3 A.M. I abstained from giving more morphia as already a fairly large dose had been ineffectual, but in the light of subsequent events it might have been better to have given it. At 6 A.M., about fifteen hours after the operation, I was called to her again, but found that she had just died.

Necropsy.—A post-mortem examination was made by Mr. Drew. The part of the thyroid gland removed was completely riddled with cysts separated by fibrous strands. The cysts contained brown colloid in parts, while in others they contained intra-cystic growth. Examination of the dressings and of the neck and chest showed that there had been no bleeding to speak of since the dressings were changed at 9 P.M., therefore the symptoms can obviously not have been due to internal hæmorrhage. A careful dissection of the neck showed that there had been no damage to any of the main nerves. The remaining lobe of the thyroid gland was found to be extensively diseased—in fact, similar to the part removed. The trachea showed signs of compression, it contained no blood, secretions, or other obstruction internally. The other organs were normal.

CASE 2.—An adenoma of the thyroid gland was removed by Mr. Horsley from a young neurotic woman. There were no cysts present. The wound healed perfectly and the patient got well without a bad symptom. She was admitted to the hospital on April 18th, 1896, and left on May 12th.

CASE 3.—Mr. Horsley dissected a solitary cyst from the thyroid gland of a boy aged thirteen years. The cyst was removed unopened. The wound healed perfectly and the boy never had a bad symptom. He was admitted to the hospital on April 27th, 1896, and left on May 9th.

CASE 4.—A woman, aged thirty-five years, had a cyst of the right lobe of the thyroid gland. She was admitted on June 8th, 1896. Mr. Heath removed the cyst through a small incision, it being necessarily ruptured during removal and the contents extravasated. Bleeding was stopped by plugging the wound with iodoform gauze. There was considerable shock after the operation. On recovering from the shock the patient was very restless, though not to the intense degree that the first patient had been. She got very little sleep and complained a good deal of pain. Her pulse before the operation had been 132. On the evening of operation, June 17th, the temperature was 99·2° F., the pulse was 100, and the respirations were 40. On the evening of June 18th—i.e., some thirty hours after the operation—the symptoms began to be alarming, the temperature had risen steadily to 101·3°, the pulse to 136, and the respirations were 36. I gave her three minims of morphia hypodermically. After this she slept continuously for eight hours and woke up in a very different state. She was cheerful, contented, free from pain and no longer restless. After this she made an uninterrupted recovery and left the hospital on July 17th.

The symptoms to which I wish to draw attention are essentially restlessness, a rapid pulse, rapid respiration, accompanied by a considerable amount of mental anxiety, with in certain cases a fatal result. I need say nothing as to the necessity of studying these symptoms so far as we can. Anyone who has witnessed them will carry away a very vivid if painful impression, and those who in the future may have the after care of cases from which thyroid tumours have been removed by operation should know what little is to be known in order that they should be alive to the importance and dangerous significance of the symptoms. In published literature there is not much directly bearing upon the matter. In Erichsen's Surgery there is no mention of this group of symptoms among the dangers of operation, whether for ordinary goitre or for the exophthalmic form. Treves's Surgery makes no mention whatever of these symptoms, though it is stated without explanation that there is a considerable fatality attaching to operations for exophthalmic goitre. Turning to the original English papers to which I have been able to refer I find that two different views have been held on the subject, and I wish to show how far these cases support one of these views. It will be generally admitted from clinical experience that these symptoms to which I am drawing attention are particularly and specially connected with the thyroid gland. The dyspnœa is not at all like that of obstruction of the larynx or trachea. The rapid pulse and restlessness might suggest very severe hæmorrhage, but as a fact no hæmorrhage is found post mortem. The clinical picture is different from that of collapse after serious lesions of the abdomen; for example, perforation of a viscus into the peritoneum. Granting that these symptoms are intimately related to the thyroid gland we have next to inquire whether these symptoms are due to an excess of the thyroid secretion or whether they are due to a deficiency. Both these opinions have been held.

ANALOGY TO THYROID DISEASES.

Of known diseases connected with the thyroid gland we all recognise myxœdema, whether idiopathic or following total extirpation of the gland. Thanks to the researches of Gull, Ord, Kocher, Horsley, and others this disease has been clearly established as due to want of thyroid. But the apathy and dulness, the slow pulse and respiration of myxœdema bear no resemblance to the symptoms which may immediately follow a thyroid operation.

The other thyroid disease with which physicians are familiar is exophthalmic goitre. I do not propose to enter into an elaborate discussion of this disease, but I would draw attention from the clinical point of view to the rapid pulse, the easily embarrassed breathing, and the nervous instability familiar in this disease, and present also in the two cases I have described after operation. With regard to its pathology many views have been held, but I wish to emphasise here Murray's view, put forth at a discussion of the British Medical Association in August, 1896.[2] Murray compares the thyroid gland in exophthalmic goitre with the changes which occur experimentally to compensate for the removal of part of the gland. The most important changes in this hypertrophied gland are (1) the formation of the new alveoli; (2) folding of the wall of the alveoli in some places, so that the internal surface of the epithelium is increased in extent; and (3) a change of the epithelial cell from a cubical to a columnar form. Compared with a normal thyroid gland we have here the appearances presented by a gland which is working at high pressure. In exophthalmic goitre there is found an increase of the

[2] Brit. Med. Jour., Oct. 3rd, 1896.

secretory tissue, for the number of alveoli is increased, and the epithelial cells themselves, instead of being cubical, are columnar. It is evident that the thyroid gland in exophthalmic goitre has a strong resemblance to a portion of gland which has undergone compensatory hypertrophy, and which is in a condition of over-activity. We know very little about the nature of the secretion of the thyroid gland in exophthalmic goitre. It is probable that it is altered in quality as well as in quantity. Anyhow, there is a satisfactory anatomical basis for considering the symptoms as due to an over-activity of the gland. Clinical evidence also gives support to this view. Improvement occurs in many cases when as a result of operation the secretory activity of the gland is diminished—i.e., either by excision of part of the gland or by ligature of some of its vessels.

In an article in the *Practitioner* for November, 1896, Mr. Carless reviews the treatment of exophthalmic goitre. In considering the thyroid theory of the disease he states that the treatment by belladonna succeeds by diminishing the thyroid secretion. Thyroid given in moderate doses has sometimes produced some of the features of exophthalmic goitre, but this may possibly be due to toxic products of putrefaction. If given in exophthalmic goitre it increases for a time the cardiac and nervous symptoms. In discussing the operative treatment of the disease he refers to the symptoms which I have described as follows: "The death-rate amounts to not less than 12 per cent. This is due in a measure to a curious condition which not infrequently supervenes after an apparently clean and successful operation. All goes well for a few hours and then suddenly the temperature rises to 103° or 104° F., the pulse runs up to a high rate, the urine is loaded with albumin, the patient becomes delirious or comatose, and finally dies perhaps within fifteen hours of the operation." This description coincides in the main features with the description I have given. With regard to the cause Mr. Carless adds that "it has been suggested that it is an excessive secretion of the thyroid secretion brought about by handling the tumour or by a stimulation of the secretive activity by the anæsthesia. It has occurred after the simplest cases as well as after the more serious ones, but curiously has never been noticed after dealing with simple goitres." The last statement can scarcely hold true any longer, and though I have not found records of published cases of these symptoms occurring after operation on simple goitre I have heard of such cases. The clinical effects of giving an excess of thyroid also support this view. For example, in a case described by Murray a woman took by mistake ninety-two grammes of thyroid gland in eleven days. The symptoms she suffered from were tachycardia, rapid respiration, exophthalmos, tremor, rise of temperature, and insomnia, symptoms analogous to the condition to which I have drawn attention.

In the two cases above described which showed symptoms cysts were removed from the thyroid gland and a considerable quantity of the fluid escaped into the wound. Hence it would easily be absorbed by the lymphatics, and this, I may say, is the way in which it has been shown that the thyroid secretion normally is conveyed from the gland into the circulation. I therefore submit that the symptoms of exophthalmic goitre, of cases where thyroid has been administered in excess medicinally, and of cases where during operation the contents of a cyst have been emptied into the wound, bear an intimate relation to one another, and that they are due to an excess of thyroid secretion in the circulation. Further, in support of this view, and against the view that the symptoms are due to a want of thyroid, I would point out that in these cases only unhealthy thyroid is removed, that the symptoms are independent of the amount removed or left behind, that they occurred in Case 4, where only a cyst was removed and plenty of thyroid was left, and especially that they occur in exophthalmic cases where only one lobe is removed.

[The writer then referred to Mr. Horsley's explanation of the symptoms in Case 1 as being due to lack of thyroid secretion, to which cause also he attributes the symptoms of exophthalmic goitre. He proceeded to describe fully the symptoms of cachexia strumipriva.]

The subject can only be solved by experimental investigation and by accurate clinical observation coupled with a more complete publication of unsuccessful cases. I submit that none of the important researches which I have quoted offers any fundamental objection to the following propositions: (1) that the symptoms to which I have been drawing attention—namely, rapid pulse and respiration and restlessness—are analogous to those of exophthalmic goitre; (2) that they are due, as in that complaint, to the absorption by the lymphatics into the circulation of a perverted secretion of the thyroid, not to the absence of normal thyroid; and (3) that in the cases where these symptoms have been most frequently seen after thyroidectomy — namely, after operation for exophthalmic goitre — it is due to squeezing out some secretion while handling the tumour; and that in the cases I have described it entered by the cyst being ruptured into the wound.

[The writer concluded by urging the importance of guarding against these serious symptoms by taking as much care to prevent the contents of a thyroid cyst from entering the wound as a surgeon takes in dealing with a fluid tumour of the abdomen. Should the symptoms arise the hypodermic injection of morphia, he considers, seems to promise the best results.]

Gloucester-terrace, W.

AN UNUSUAL CASE OF WOUND OF THE HEART; RECOVERY.

BY SAMUEL PRIOR, M.B., C.M. GLASG.,
ASSISTANT PHYSICIAN TO THE WOODILEE ASYLUM, LENZIE, GLASGOW.

WOUNDS of the heart are serious both from the immediate danger of wounding the heart itself and from the complications that are apt to arise. Recovery or even partial recovery is all the more satisfactory. The following case, ending in complete recovery, may be interesting.

The patient, a man aged forty-three years, was an epileptic whose mental decadence was not much advanced. The fits were infrequent and usually slight—of the character of *petit mal*—though he had occasionally well-marked convulsions. He was a confirmed pickpocket and hoarded up pins, nails, pieces of wire, &c., which were, as a rule, used by patients for cleaning tobacco pipes. In the year 1890 he had shown a strong suicidal tendency by inflicting a deep wound on his neck. He is a type of patient well known in asylums, requiring careful and strict supervision day and night. Last April he made another suicidal attempt. He cunningly chose the time when the patients were getting up and the attendants were very busy for this determined though unsuccessful attempt. The attendant in charge in the sick-room observed the patient doing something unusual, and on removing the bed-clothes was astonished to find an iron pin projecting from the chest in the region of the heart. The exact situation was 1¼ inches below and 1 inch internal to the left nipple. This pin was directed slightly upwards and inwards. It moved vigorously with every beat of the heart and travelled about an inch upwards and downwards every time. On examination the pin was felt to be firmly embedded in the wall of the heart, which was felt tugging at the inner end of the pin. Removal of this peculiar foreign body was not undertaken without some misgivings as to the result. The pin was rotated and gently withdrawn; the part within the chest measured 3 inches, making a total length of 4 inches of $\frac{5}{16}$-inch iron wire. The patient was collapsed; he had a small, feeble pulse, 64 per minute; respiration was shallow, 24 per minute; and the skin was cold. There was practically no hæmorrhage from the wound. No external hæmorrhage appeared subsequently to this, and there were no signs of effusion of blood or serum into the pericardium. The patient kept his eyes closed. He did not resist an examination of the pupils, which were dilated and reacted but slightly to light. When spoken to he would not answer. I thought he was conscious of all that was said, and subsequent events made this almost certain. The wound was dressed antiseptically, and there was no visible suppuration at any time. On the day following the infliction of the wound there was some subcutaneous emphysema round the wound. The physical signs of pneumothorax appeared, but this and the emphysema disappeared again in twenty-four hours. The temperature, pulse, and respiration rates rose to a maximum thirty-six hours after the wound was made. The records were as follows: at 7 P.M. the temperature was 100·8° F., the pulse was 112, and the respiration was 36; at 9 P.M. the temperature was 101·0°, the pulse was 109, and the respiration was 32; at 11 P.M. the

temperature was 101·0°, the pulse was 105, and the respiration was 38. The temperature remained slightly febrile for a week and then became normal. The patient would not take food or drink for four days, and seemed indifferent to everything about him. On the fourth night he asked for a drink of water. The following day he looked round the room several times when he thought no one was watching him. He asked why he was kept in bed and wished to get up. Several pieces of wire were found in his bed, showing that he was still occupied with suicidal projects. He was removed to another bed, it being supposed, and rightly so, that he had concealed these in the wire mattress. A handful of pieces of wire, needles, pins, &c., was taken out of the mattress. He was excessively annoyed at having his bed changed and the wire, &c., removed. He told one of the attendants he "hadn't succeeded yet, but would try again and succeed." His appetite soon returned and he recovered his usual health. Numerous pulse tracings were taken. Soon after the pin was removed the tracing showed a low tension pulse with almost full dicrotism and slight irregularity. On the third day the tracing showed a better tension pulse; the dicrotism was nearly gone. On the fourth day there was still some dicrotism; the tracings showed great amplitude of the percussion wave. Normal tracings were obtained on the succeeding days. There are now (nearly six months after) no signs of pericardial adhesion. The only evidence left of the injury is a reddish linear scar half an inch long, directed downwards and outwards.

It is rather surprising that such a thick and dirty piece of wire produced no suppuration or irritation of the pericardium. The pin must have entered at least two inches into the wall of the left ventricle, but did not enter the cavity of that ventricle. The patient seemed rather surprised and ashamed at his failure. Although kept under the closest supervision day and night he declares his intention plainly of "trying to manage it yet." Life for him has no attraction—it is indeed a weariness to the flesh; he has reached a point where "the terrors of life outweigh the terrors of death."

Glasgow.

ON THE SURGICAL TREATMENT OF SPASTIC PARALYSIS IN CHILDREN.

BY J. JACKSON CLARKE, M.B. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON AT THE NORTH-WEST LONDON AND CITY ORTHOPÆDIC HOSPITALS.

WHEREVER many disabled children are seen a certain proportion of them will be found to be suffering from spastic paralysis. Though recognised from the earliest times the affection was first systematically described by the English orthopædic surgeon, Little, who rightly ascribed the majority of cases to superficial lesions of the cerebral convolutions resulting from meningeal hæmorrhage induced by the pressure of the maternal pelvic bones on the fœtal skull. It is naturally commonest in first-born children and is usually congenital. Some cases, however, are not congenital, but arise in infancy from thrombosis of the superficial cerebral vessels during the course of fevers, such as measles, scarlet fever, and influenza. All grades of the affection are met with. There may be muscular rigidity of the neck and trunk as well as of the limbs, or only the lower limbs may be affected. The intellectual functions may be totally destroyed or completely intact. In the latter case it has been supposed that the affection is of spinal origin, though there is no satisfactory proof that this invariably holds good. As an introduction to the surgical aspects of spastic paralysis one of these slighter cases may be briefly considered, a case in which the intellect is unaffected and the spasm is limited to the muscles of the leg with resulting talipes equinus, equino-varus, or equino-valgus. Electricity and massage have been tried till the parents of the child have grown weary and the uselessness of these measures has become obvious. Recourse has then been had to retentive apparatus in order to try to effect a gradual correction of the deformity. Hope is awakened, and with patient endeavour the apparatus is given every chance of effecting its purpose. But after months or years of perseverance the uselessness of retentive apparatus alone becomes evident. It is uncomfortable and wearisome to the little patient, increasing the spasm of the stronger muscles, and in this way rather impeding than helping progression. And whenever the apparatus is left off for a moment the deformity at once returns with, if anything, greater rigidity than ever. At last, with reluctance and sometimes with but little confidence, operative treatment is suggested, and the parents of the child accept it as a last desperate chance. If the operation is done thoroughly, every resisting tendon being completely severed and the limb fixed at once in an over-corrected position and so left for four or five weeks, it is found that at the end of this time the tendency to return to the deformity is greatly diminished and walking is again possible to the patient, and, if the latter is intelligent, by exercise of the will the tendency to deformity may soon be entirely overcome, so that retentive apparatus may be dispensed with in the day and at night only a light and simple shoe may be required to render the cure a permanent one.

If a case of infantile paralysis is compared with one of spastic paralysis, a marked contrast may be observed. Infantile paralysis is caused by destruction of the cells of the anterior cornua of the spinal cord; spastic paralysis is attributable to partial disablement of the cells of the motor cortex or to partial blocking of the pyramidal tracts. In infantile paralysis massage and Faradaism in the early stages help the recovery of any muscular fibres of which the nutritive nerve cells have not been completely destroyed; in spastic paraplegia massage is of no use apart from complete tenotomy. In infantile paralysis suitable apparatus prevents the occurrence of deformity; in spastic paralysis the deformity is only overcome by the use of much force and at the cost of some distress to the patient. In deformity due to infantile paralysis tenotomy, &c., are only employed to bring the limbs into workable shape and, save in the very slightest cases, the retentive apparatus must be worn for the rest of the patient's life; in spastic paralysis efficient tenotomy, by weakening the muscles the persistent over-action of which produces the deformity, tends to restore the balance of muscular power, and in most cases this may be so far successful that retentive apparatus can be dispensed with.

Lorenz,[1] who has recently published an important series of observations on this topic, attributes the good effect of thorough tenotomy in spastic cases, to the shortening of the bellies of the tenotomised muscles, so that their range of action is diminished. In severe cases of spastic contraction of the knee Lorenz recommends excision of from one inch to one and a half inch of the tendons of the biceps, semi-tendinosus, and semi-membranosus muscles; and even after such tenectomies and subsequent straightening of the knee Lorenz has never observed a failure of union in the widely-separated ends of the tendons. Thus, after an ordinary tenotomy failure of union need not be feared. For the marked adductor spasm, which, by causing the knees to press against each other, is often such a serious hindrance to progression, Lorenz has found that in mild cases forcible stretching of the adductors combined with manipulation is successful, in more severe cases subcutaneous tenotomy answers, whilst in the most pronounced cases he has successfully excised a section of the obturator nerve—an operation of some difficulty in the adducted position of the limb.

Indications for operative treatment.—Before deciding to undertake the operative treatment of any case various factors have to be weighed. In the first place, the condition of the intellectual faculties must be considered. Often the mind is altogether vacant and in such cases it is not worth while to rectify malpositions. Sometimes the condition is complicated by bilateral athetosis (general chorea) and this may be taken as a distinct contra-indication. Epilepsy is a somewhat rare complication and would also be an argument for non-interference. General rigidity renders improvement of the condition of the legs of but little service to the patient. In diagnosis the cases of infantile cerebral degeneration with symmetrical changes at the macula, first observed by Waren Tay and recently described by Kingdon and Risien Russell,[2] must be borne in mind. Such cases begin in infancy and end fatally about the end of the second year. They are marked by progressive paralysis and some rigidity.

The paraplegic forms of spastic paralysis are the more

[1] A. Lorenz: Wiener Klinische Rundschau, Nos. 21–26, 1897.
[2] Transactions of the Royal Medical and Chirurgical Society, 1897.

amenable to treatment, especially when the chief part of the disability consists in spastic club-foot. Such cases give complete satisfaction to all concerned.

Old Cavendish-street, W.

A CASE OF PUERPERAL ECLAMPSIA SUCCESSFULLY TREATED BY CHLORAL AND BROMIDE OF POTASSIUM WITH INHALATION OF CHLOROFORM.

BY WILLIAM FREDERICK GARDENER, M.R.C.S. ENG., L.R.C.P. LOND.

I WAS called on Dec. 6th, 1896, at 4.45 P.M., to see a woman who had engaged me to attend her in her confinement about that date (Dec. 8th to 15th). She was forty-one years of age, and this was her first pregnancy. On arrival I found her dressed and seeming very dull. It was said that she had been complaining of "her head" and suddenly went off into some kind of fit, her features being convulsed and blackened. The case seeming like puerperal eclampsia she was at once removed to bed. A soap-and-water enema had been given in the morning which had acted slightly. At 5.15 the patient was seized with a second fit, in all respects typical of puerperal eclampsia. Three grains of calomel were placed on the back of the tongue and followed by 20 grains each of chloral hydrate and bromide of potassium. Most of the calomel was swallowed and the whole of the mixture. At 5.50 a third convulsion occurred which was cut short by administration of chloroform vapour. At 6.50 another fit was similarly treated, the inhalation of chloroform being prolonged for the purpose of making a vaginal examination. The os was found to be dilated to the diameter of a little less than half an inch. At 8 o'clock $\frac{1}{10}$ gr. pilocarpine hydrochlorate was injected subcutaneously. In response to repeated inquiries the patient complained of sickness. At 8.45 and 9.32 the fits recurred. By 9 P.M. the os had dilated very slightly. At 10.30 the patient commenced to moan, her eyes opened, and lateral nystagmus became visible with turning of the head and eyes to the left. A few whiffs of chloroform removed all these symptoms and staved off another convulsion, as in this way the previous ones had commenced. At 11.5 P.M. and 12.55 A.M. the nystagmus returning convulsions were again prevented by a prophylactic use of chloroform. Every three hours a nutrient enema of beef-tea and milk was administered containing twenty grains each of bromide of potassium and chloral hydrate. At 9.15 P.M. urine had been passed into the bed and at 10.45 P.M. the bowels had commenced to act. At 2.25 A.M. on Dec. 7th a convulsive attack again seized the patient, the first not prevented since 9.32 the previous evening. At 4.25 A.M. the temperature was 103° and the pulse was 108. At 10.20 the temperature was 100° and the pulse 118. At 12.30 P.M. the first specimen of urine was obtained, being drawn off by catheter; it was "porter-coloured" and yielded five-sixths albumin. In consultation with Mr. Soltau Eccles, of Norwood, it was decided to leave the case to nature unless there should be any return of the convulsive seizures. The pains were then becoming fairly regular and the os was very slowly dilating. There were no more fits. The mixture of bromide of potassium and chloral hydrate was given in small enemata of milk and beef tea every four hours. The pupils remained contracted, and the patient complained occasionally of great pain in the head, but the nystagmus and twitching of the muscles were absent and the bowels acted freely and often. By 4 o'clock the amount of albumin present had diminished to one-sixth, lessening slightly towards evening. At 11 o'clock the fœtus was born without any very strong pains. It was stillborn, and had apparently been dead some days. At 2 A.M. on Dec. 8th the temperature had fallen to 99·4°, and at 8 o'clock to 97·2°. From this date to Dec. 19th there was considerable variation of temperature from 97° to 102°. The urine contained from one-tenth to one-eighth albumin up to this date, then slowly cleared off, till early in January only a very faint trace remained. Very severe headaches were present during the whole time, for which a variety of drugs were tried, ammonium chloride giving the best results. A mixture of acid tartrate of potash and digitalis was given for some weeks, with 40 gr. of pulv. jalapæ co. at night.

The great interest in this case was the extraordinary ease with which the fits were arrested by chloroform inhalation. One hundred grains each of chloral hydrate and potassium bromide were retained by the mouth and rectum.

Sydenham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF TUBERCULOUS DISEASE OF THE BLADDER TREATED BY SUPRA-PUBIC CYSTOTOMY AND CURETTING.

BY EDWARD COTTERELL, F.R.C.S. ENG.,
SURGEON TO OUT-PATIENTS, LONDON LOCK HOSPITAL, &c.

I WAS consulted in the spring of 1895 by a man aged thirty-two years who complained of great irritability of the bladder both by day and by night. There was pain in the hypogastric region, in the perineum, and in the middle of the penis during and after micturition, and occasionally there was stoppage of the stream. Now and then a few small clots of blood passed after micturition. These symptoms had been coming on for some ten or twelve months and were becoming gradually intensified. The patient was losing flesh; he looked ill and altogether appeared to be in a very unsatisfactory state of health. The urine was alkaline, of specific gravity 1012, and contained a large amount of mucopus, but tubercle bacilli were not detected in the deposit after centrifugalisation. The prostate was slightly tender, but was not nodular or perceptibly enlarged. The testicles were free from evidences of tuberculous disease. Cystoscopic examination showed that the bladder was markedly trabeculated, and a small ragged ulcer was detected just below the mouth of the right ureter. Upon June 23rd, 1895, I performed supra-pubic cystotomy and thoroughly curetted the ulceration, after which the raw surface was freely burnt with Paquelin's thermo-cautery. The after history of the case presented nothing unusual. The wound healed within a month, and the urine gradually became acid and free from pus and mucus. After the wound had healed the irritability of the bladder was found to have disappeared completely, but owing to the contracted state of the bladder micturition for some time was a little more frequent than is usually the case; but gradually this condition improved and approached the normal standard. In the following December the patient was apparently quite well. The urine was acid, with a specific gravity of 1028. There was no irritability of the bladder by day or by night. There was no pain, and altogether the general as well as the local condition had much improved since he came under my care.

I am induced to add the notes of this case to those on the same subject which have previously appeared in THE LANCET as a further contribution to the modern surgical treatment of tuberculosis affecting the bladder. At the present time (September, 1897) the patient is quite well in health. He has had no urinary symptoms or trouble whatever since convalescence from the operation has been established, so that the case appears to promise well for the future.

West Halkin-street, S.W.

NOTE ON A CASE OF DEATH FROM LIGHTNING STROKE.

BY C. F. GLINN, M.R.C.S. ENG., L.R.C.P. LOND.

ON April 28th, 1897, about 4 P.M., during a thunderstorm of unusual severity, I was called out to see a farmer, aged fifty-four years, who, it was stated, had apparently been struck dead by lightning about half an hour previously. On my arrival I found the man dead and lying on the kitchen floor, where he had been placed when brought in. I was told that at the commencement of the storm he had said to his wife that he would go out in the field just behind the house to

drive in some cattle to shelter. Two or three minutes later his son, aged sixteen years, came in by the front entrance and said he had had a narrow escape from the lightning, as "he had felt it strike along the front of his leggings, and it had made his legs feel numb-like up to his knees." An older son then went out to see if his father was safe, and on passing through the gate of the yard saw his father lying on the ground about thirty yards from the house. He went up to him and found that he was dead; he was lying at full length with his face downwards, his right hand in his trousers pocket. A small pool of blood was under his head, his hat (a black felt one) was lying about a yard away, and was torn to pieces. Both cloth leggings were torn almost from top to bottom and a small piece of one was lying near. On proceeding to examine the body I found over the situation of the upper anterior angle of the left parietal bone a wound the size of a penny, the soft structures of which were quite disorganised down to the bone, but the bone itself appeared uninjured. The hair round the wound was burnt and a good deal of blood was coagulated in the hair around. From the direction of this wound a red line of hyperæmia about a quarter of an inch broad could be distinctly seen running in an oblique direction down the neck and over the middle of the clavicle to the epigastrium. The hair of the neck and body was burnt and singed along this line and there was a strong smell of burning when the clothes were removed; at the epigastrium this line merged into a diffused hyperæmia which involved the whole of the lower part of the trunk and both thighs; the hyperæmia ended at the knees, but a red line similar to that above described ran down the outer side of the right leg and foot to the little toe (the inner surface of the right boot was torn along a line corresponding to this). On the under surface of the left foot just below the instep was a fresh bleeding wound the size and shape of a threepenny-piece. There were two bullæ about the size of a man's thumb in the left groin. On removing the body upstairs the wound on the head began bleeding again so freely that a considerable pool of blood (about half a pint) was formed on the floor; this appeared to indicate an abnormally fluid state of the blood. The face was very livid. There was no watch or any other article whatever found in the pockets. There was an iron wire round the brim of the hat, apparently used for stiffening purposes; the hat itself was torn to pieces, leaving this exposed.

Hatherleigh, North Devon.

A NOTE UPON THE RELATIVE VALUE OF SILK AND CATGUT AS MATERIAL FOR SUTURES.

BY A. BOUILLON, M.D., C.M.

ON Aug. 11th, 1897, I was called to attend a farmer whose right arm had been caught in a mill. The limb from the fingers to the elbow was all crushed or bruised. I had to perform disarticulation at the elbow, and fortunately there was sufficient skin on each side, so I sutured it with antiseptic catgut and silk thread in alternate stitches. On Aug. 15th I went to see my patient. To my great surprise the man was sitting and smoking with other members of the family. I removed the bandage, and everywhere where I had sutured with silk the skin was white and natural and the edges were firmly adherent as if it had been merely a slight cut; but at the gut sutures the edges of the skin were slightly separated and pus was oozing out where the stitches passed through the skin and the skin was red and swollen. The conclusion to be drawn from this is that the best ligature to use in amputation is silk.

Matane, Canada.

THE SEWAGE OF BRISTOL.—The sub-committee of the sanitary committee appointed to inquire into the nuisance arising from the pollution of the River Avon and the New Cut by the discharge of the Bristol sewage have unanimously resolved to ask their committee to report to the Bristol Town Council that the best way of dealing with the evil is to carry the sewage into the Bristol Channel by the plan of extending their main sewers. Although expensive it may be anticipated that this plan will receive the confirmation of the sanitary committee at their next meeting.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas eò morborum et dissectionum historias, tum aliorum tum propriâ collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

GUY'S HOSPITAL.

A CASE OF SARCOMA OF THE UPPER JAW IN A WOMAN TWENTY YEARS OF AGE; EXCISION; RECOVERY.

(Under the care of Mr. CLEMENT LUCAS.)

MYELOID sarcoma of the upper jaw in young adults is by no means rare, and its starting point is almost always the alveolar border of the bone. In a very large proportion of the cases there has been extensive caries of the teeth on the affected side, and the association is sufficiently constant to justify the assumption that there is a causal relation between the caries and the sarcoma. In the following case the caries of the teeth had been extensive and of long duration.

A woman, aged twenty years, was admitted into Guy's Hospital on May 19th, 1897, complaining of a swelling in the mouth. The patient's health had always been good, but she had for years suffered much from her teeth. About last Christmas (1896) she noticed that her right cheek was becoming more prominent, and about three weeks before her admission to the hospital she found that the gum of the upper jaw on the right side was swollen and this swelling had increased rapidly. On admission it was seen that the alveolar border of the right superior maxillary bone was the seat of a swelling extending from the middle line outwards for about one and a half inches. The anterior part of the alveolar process was pushed forwards, obliterating the naso-labial fold, and a great portion of the process was loose, the right central and lateral incisor teeth moving with it. The growth extended also backwards on to the hard palate for about an inch. The surface of the growth was uneven, firm and elastic to the touch, and pink in colour; no egg-shell crackling could be made out. The right cheek was somewhat more prominent than the left. On May 24th the patient was anæsthetised and an incision was made through the upper lip and round the right ala of the nose; the lip and cheek were dissected off the right superior maxilla and the bone was sawn through just to the right of the septum and also immediately below the orbit and at its attachment to the malar bone. The superior maxilla was then wrenched away, leaving the orbital plate, and the hæmorrhage having been stopped the wound was dusted with iodoform and tannin, the lip was drawn together with two harelip pins, and the edges of the incision were sutured with horsehair. The whole was then dressed with a "sealed" dressing of iodoform and collodion on gauze. On examination of the portion of bone removed it was seen to be much softened and infiltrated by the growth; when examined microscopically it was found to be a giant-celled sarcoma. The mouth was washed out frequently with warm water and gargled with a solution of resorcin (ten grains to the ounce). On the 27th the sealed dressing was taken off and all the stitches were removed together with the harelip pins. The part was re-sealed with iodoform and collodion painted on sal alembroth gauze. The dressing was finally removed on June 4th, when it was found that the face incisions had all healed by first intention. The patient left the hospital on June 6th convalescent.

BIRMINGHAM GENERAL HOSPITAL.

A CASE OF ACUTE GENERAL SUPPURATIVE PERITONITIS TREATED BY LAPAROTOMY.

(Under the care of Mr. LEONARD GAMGEE.)

THE treatment of acute general suppurative peritonitis is exceedingly unsatisfactory. An expectant treatment, with or without the use of drugs, may in a few—a very few—cases

be followed by recovery; but a doubt must always exist as to the peritonitis having been general, for the probability is decidedly in favour of its having been only partial, localised by the formation of adhesions. The results of surgical interference are hardly more satisfactory; cases do occur in which energetic flushing and draining of the peritoneal cavity prove successful in saving the patient's life, but unfortunately these cases are quite exceptional. For the usual fatal result several adequate causes can be assigned. In the first place the general condition of the patient is so grave that the additional shock of a laparotomy, slight though that shock may be, is sufficient to lead rapidly to a fatal result, but another cause is the practical impossibility of washing away all the exudation; some of it is very adhesive, and cannot be removed by a stream of water; and, lastly, as has been pointed out by Mr. C. B. Lockwood in his lectures on Traumatic Infection at the Royal College of Surgeons of England,[1] at a very early period of the disease the micro-organisms penetrate the epithelial lining of the peritoneum and thus would be quite undisturbed by the most thorough flushing of the peritoneal cavity. At the Carlisle meeting of the British Medical Association in 1896, in a discussion on Appendicitis, Mr. Mitchell Banks mentioned that he had never seen a patient's life saved if general perforative peritonitis had occurred, even though the peritoneal cavity had been thoroughly washed out.[2] It is probable that the variety of micro-organism causing the peritonitis has much influence on the ultimate result. The utility of judicious flushing of the peritoneal cavity in certain cases is amply borne out by the very interesting case under the care of Mr. Gamgee which is recorded below.

A girl, aged sixteen years, was admitted into the General Hospital, Birmingham, on Jan. 1st, 1897. Fourteen days before admission the patient, while engaged in household duties, felt a sudden severe pain over the lower half of the abdomen. With the onset of the pain she became faint and had to lie down. Her temperature rose to 102° F. At the end of eight days from this time the pain had gone and her temperature was normal. On Dec. 30th, 1896, two days before admission, she had taken a dose of castor oil and a few hours afterwards was seized with a sudden acute pain in the abdomen and profuse vomiting. At the same time the temperature rose to 101·6° and the abdomen rapidly became distended and tender on pressure. On Dec. 31st the patient's condition remained the same, but the pain and tenderness seemed distinctly worse over the right iliac fossa than over the rest of the abdomen. On admission on the evening of Jan. 1st, 1897, the condition was as follows. The patient was evidently very ill. The temperature was 101°; the pulse was 132, regular, and of fair strength; the respirations were 40. The tongue was covered with a thick white fur, but was moist. Frequent bilious vomiting occurred. There was general distension of the abdomen, accompanied by extreme tenderness and rigidity on palpation. No localised swelling could be felt, and the rigidity and tenderness were not more marked in one part than in another. The bowels were constipated. The liver dulness was not obliterated. No prior history of abdominal trouble was ascertainable. At 9 P.M. on Jan. 1st the abdomen was opened in the middle line below the umbilicus and was found to contain a large quantity of thin, foul-smelling pus which seemed diffused all over the peritoneal cavity. In the right iliac fossa a few recent adhesions were felt. The abdominal cavity was flushed with warm water and drained with a Keith's tube. The patient's improvement was slow but constant, and by Feb. 12th she was walking about the ward apparently well. On Feb. 17th she felt a sudden intense pain in the centre of the abdomen. Her pulse rose to 150, her temperature sank to 97°, and she vomited once. There were moderate general abdominal distension and marked tenderness on pressure just to the left of the umbilicus. This condition gradually passed off and all symptoms had disappeared at the end of ten days. At the present time the patient is perfectly well.

Remarks by Mr. GAMGEE.—In this case the diagnosis of suppurative peritonitis was fairly clear, but the cause was doubtful. However, the condition for the fortnight preceding operation, and more especially the greater intensity of the pain at the onset of the second attack in the right iliac fossa, made it appear probable that the peritonitis was caused by a perforation of the vermiform appendix, and this diagnosis was borne out by the discovery of a few recent adhesions in the right iliac fossa. In treating a case of this nature the question always arises as to whether a prolonged search should be made for the appendix; but the patient is, as a rule, in such a condition as to preclude any prolonged operative procedure, and so simple incision, flushing, and drainage give the best chance of recovery.

[1] THE LANCET, March 2nd, 1895, p. 527.
[2] THE LANCET, Aug. 8th, 1896, p. 424.

WORCESTER GENERAL INFIRMARY.

A CASE OF INGUINAL HERNIA WITH BLADDER IN THE WALL OF THE SAC.

(Under the care of Mr. T. BATES.)

FOR the notes of the case we are indebted to Mr. Robert J. Hillier, who was acting at the time as house surgeon.

A man, aged sixty-four years, suffering from retention of urine, applied at the casualty department of the Worcester General Infirmary on the night of July 30th. A catheter was passed without any difficulty whatever and the bladder was emptied. Nothing abnormal was noted in the urine; but it was observed that he had a small tense inguinal hernia on the right side. Attempts to reduce this failed, and on questioning the patient it was found that he had been constipated for three or four days and had vomited once that day. The hernia, he said, had frequently been down before, but had up to that time never given any trouble in reduction. There was no impulse in it on coughing. He had never worn a truss. He was advised to enter the infirmary at once, but refused to do so. The next morning he again visited the casualty department, having suffered considerable pain from the hernia during the night. There had been no more vomiting and the bowels had acted freely early that morning. The hernia was found to be larger, quite as tense, and still irreducible and without impulse on coughing. He was again advised to enter the infirmary, and this time he consented to do so. He was at once put to bed and an icebag was applied to the hernia. About midday Mr. Hilier made an attempt at reduction, and almost immediately the whole swelling disappeared with the characteristic gurgling feeling and sound. On passing the finger into the ring there still seemed to be some slight thickening which at the time was considered to be a thickened sac. A pad and spica bandage were applied until a truss could be obtained. Late in the afternoon of the same day, a truss having been procured, Mr. Hillier proceeded to put it on the patient, but as soon as the pad was removed the hernia reappeared; and this time it could not be reduced. As it was not then paining him, and as there were no symptoms of strangulation, it was decided to leave him alone until the next day. On the next morning (Aug. 1st) it was found that he had had a good night and had slept well. There had been no vomiting; but his bowels had not acted and the hernia had increased still further in size. He had taken plenty of nourishment, and up to this time had had no trouble with his urine since admission. He was ordered a castor-oil enema, which he returned almost immediately with hardly any fæcal matter. At the same time he passed a little urine, which was blood-stained in appearance, but of which a specimen could not be obtained for more accurate examination. Late in the afternoon a final attempt at reduction was made, but again without result. In the evening Mr. Bates decided to operate. The skin incision was made parallel to Poupart's ligament and as far outwards as the mid-Poupart plane. The sac was opened in the usual manner and was found to be empty. It was ligatured at its neck, cut off, and the stump replaced in the abdomen. As soon as this was done, what appeared to be another and thicker sac was found lying internal to, and partly behind and adherent to, the first one, and having attached to it several large tags of fat. This second supposed sac was also opened, and then almost immediately the fact was recognised that it might be the bladder, and a catheter passed per urethram confirmed the suspicion by appearing in the wound, from which some urine which at first was thought to be peritoneal fluid had escaped on incision. The wound in the bladder having been carefully united by about a dozen Sänger and Lembert sutures of sterilised silk, and some of the above-mentioned tags of fat ligatured and removed, the skin incision was sutured over the unreduced wounded portion of the bladder, a drainage-tube being inserted along

the whole length of the incision with its ends protruding at each angle of the wound. The whole was dressed with the double cyanide gauze. The patient stood the operation extremely well, and very quickly recovered from the effects of the anæsthetic (ether). Next morning it was found that he had passed a very good night and had had no pain or sickness; his pulse was very good and he expressed himself as feeling so well that he wanted to get up. He had passed sixteen ounces of urine per urethram without any difficulty whatever. The urine contained blood and urates, but the amount of the former was not at all excessive. From this time onward he made a perfectly uninterrupted recovery, the amount of blood in the urine rapidly decreased, and in a few days disappeared altogether. The wound was dressed on the third day, the tube was removed on the fifth day, stitches were removed on the tenth day, and the bowels acted first on the eighth day after a saline purge. The temperature never rose above the normal, and at no time was there any leakage from the tube or wound which could point to the vesical wound not being perfectly watertight. The small portion of bladder in the ring was not subsequently reduced, but was left where it was found at the time of the operation, and although there is a slight impulse in the scar on coughing this piece of bladder gives him no apparent discomfort. The herniated portion of the bladder belonged to the part below where the peritoneum is reflected from the bladder to the anterior abdominal wall, and consequently had no true peritoneal coat, although it was covered by the peritoneal sac of the intestinal hernia, which sac was adherent to it.

Remarks by Mr. HILLIER.—The chief reason of course for reporting this case (for permission to publish which I am indebted to the courtesy of Mr Bates) is not so much the treatment (although that was sufficiently instructive) but the rarity of this condition. On looking up the literature of the subject I find that Mr. Macready records thirty-six cases, of which twenty-six were scrotal, four labial, two femoral, one vaginal, one perineal, one ischiatic, and one ventral. Undoubtedly the condition is a very rare one, and since the publication of Mr. Macready's book there do not seem to have been more than about half-a-dozen cases recorded. The cause of the condition seems to be very obscure; most writers upon the subject incline to the view that the bladder is dragged through the ring by a hernia to which it is adherent. Mr. Treves has recorded a case[1] from which he argues that it is due to a growth of pre-vesical fat along the inguinal canal which drags the bladder finally through the ring. In the case under notice both conditions were present—viz., the bladder was adherent to the sac of the original hernia and also some of the pre-vesical fat was outside the ring, so that it was quite impossible to decide with any degree of certainty which was the actual determining cause. It has been stated that if a thick cushion of fat is found at or about the neck of a hernial sac the near proximity of the bladder is to be suspected, and the point seems to me to be one well worth remembering. In nearly all the cases that I have been able to find the patients have been fat persons.

[1] THE LANCET, June 8th, 1895, p. 1424.

PROPOSED SEAMEN'S HOSPITAL FOR CARDIFF.—At a meeting of the executive committee of the Cardiff Seamen's Hospital Fund held on Sept. 27th, under the presidency of the mayor, it was stated that the subscriptions received up to that date amounted to £10,924. This includes the sum of £5000 which was promised by Lord Bute conditionally upon £30,000 being raised.

BRISTOL ROYAL INFIRMARY.—At the half-yearly meeting of the committee of the Bristol Royal Infirmary, held on Sept. 28th, the Rev. S. W. Wayte, who was in the chair, said that the alterations in the operating theatre recommended by the late Mr. James Greig Smith would probably be carried out during the next few months. Soon after Mr. Greig Smith's death some of his friends, acting independently of the infirmary authorities, formed a committee having Mr. Arrowsmith as chairman and Mr. F. B. Girdlestone as treasurer, with the object of setting up a bust in the museum and library and a medallion in the infirmary as memorials of him. Subscriptions were still being asked for with a view to the fund being closed. The subscriptions to the infirmary had unfortunately fallen off considerably, and the treasurer was authorised to sell £2000 of the invested capital.

Reviews and Notices of Books.

Doctor Mendini's Hygienic Guide to Rome. Translated from the Italian and Edited, with an Additional Chapter on Rome as a Health Resort, by JOHN J. EYRE, M.R.C.P., L.R.C.S. Irel., D.P.H. Camb. London: The Scientific Press. 1897.

"ROME would be one of the healthiest of cities if it were not Rome"—if it were not, that is to say, a city of catacombs, of basilicas and churches, of picture galleries and sculpture galleries, of ruins and excavations, all of which attract the visitor, generally with limited time at his disposal and so tempted to over-exert body and mind in his eagerness to miss nothing during his sojourn.

The sentence which we have quoted is written by Dr. Gsell-Fels, a physician by profession and a man of letters as well, whose guide-books to Italy, from "the Alps to Etna," have won the admiration of authorities like the late Professor Freeman for their fulness, trustworthiness, and critical discrimination. It conveys a just opinion, as statistics more than demonstrate, and it sounds a note of warning which the world of travel is extremely prone to neglect. The "foreign resident" in Rome who "does as the Romans do" has never reason to complain of the city's unhealthiness. Indeed, he is generally able to "make more of life" than in any other European capital, and certainly, as English-speaking residents can testify, he often reaches a longevity rarely equalled elsewhere. But it is quite another affair with the "foreign visitor" whose stay is restricted to weeks or even days, and who generally contrives to pack into his brief holiday an amount of sight-seeing—that is, of physical and mental fatigue—which makes him a "candidate" for whatever insanitary mischief may for the moment be prevalent either in the air, the water, the soil, or the conditions inseparable from concentrated population. In ninety-nine cases out of a hundred, as generations of English-speaking or, for that matter, of French or German practitioners can attest, it is the "foreign visitor" with his imprudences and his ignorance or defiance of local experience and prescription who incurs disease or premature death in Rome, and whose "record" has wrought for the city that evil name which at no time, assuredly not since 1870, has it deserved.

It is to this class—an annually increasing one—that Dr. Mendini addresses the carefully compiled "Hygienic Guide" so opportunely given to the English-speaking world by Mr. J. J. Eyre. "Carefully compiled," we say; for few or none of his observations are original or are other than familiar to readers of the professional journals in London, Paris, Berlin, or Vienna. But Dr. Mendini is an accomplished physician and a trained observer, and in his work of compilation he generally knows by personal experience and independent research what to select and what to omit from the publications of his predecessors. Very full and satisfactory is the section on the Mortality in Rome and other Italian Cities, from which it appears that, measured by her national sisters, Rome has much the smallest death-rate in general and is much less subject than they are to special diseases such as small-pox, scarlet fever and measles, diphtheria, typhoid fever, or tuberculosis. In illustration of this follows another section on the Physical Robustness of the Citizens founded on the examination of the young men who yearly present themselves at the conscription to be passed into military service. Of the rejections Rome gives fewest—19·68 per cent. of those examined; while Turin in "robust upper Italy," as it has been called, heads the list with 21·99.

The section on the Relative Salubrity of the Several

Quarters of Rome introduces us to a full and carefully illustrated chapter on the Climate, in which we find tables on temperature, humidity, cloud, rain, and wind which tell their own tale, and that, in comparison with other health resorts even in Italy, an eminently reassuring one. The section on Malaria which follows is (thanks to the translator) brought up to date by a succinct statement of Dr. Manson's "Mosquito Theory" supplemented by Surgeon-Major Ross's experiments in relation to it; but the prescriptions of How to Protect Oneself from Malaria are far from complete—witness the omission of Dr. Tommasi Crudeli's lemon potion (more than once described in THE LANCET), by which that eminent physician and hygienist protected a vast number of labourers employed in constructing a railway through a notoriously malarious tract of southern Italy. A word of caution too should not have been left out as to the use of quinine without medical advice. The reckless consumption of "that veritable poison to the vaso-motor system," as Dr. Tommasi-Crudeli calls it, explains on the part of many a patient in Rome his non-response to the drug when properly prescribed by the physician, to say nothing of the fact that it is often unprofessionally taken in cognac or whisky as a vehicle, so as seriously to compromise the hepatic and renal viscera at a time when their functional power should be at its best.

The Waters of Rome form the subject of a very useful chapter, mainly drawn from the analysis made by the Senator Professor Cannizzaro and Professors Nasini and Piccini in 1884, of which a full account was given in THE LANCET[1] towards the close of that year. But we need not follow Dr. Mendini chapter by chapter throughout his serviceable and opportune manual, nor need we do more than pass a cordially favourable judgment on Mr. Eyre's supplement on Rome as a Health Resort, addressed primarily to his own countrymen. Rather let us point out a few blemishes which ought to disappear before the volume finally takes its place on the bookshelf of the busy consultant or in the knapsack of the academic visitor. Mr. A. B. Stevens, M.A., M.B. Oxon., who is responsible for its revision in proof, should have been careful to weed out the numerous errors in classical quotation which disfigure it—for instance, the sentence from Herodotus (p. 15), which neither the Father of History nor any Greek, it is safe to say, ever wrote; or the citation of Sextus Gullius (*sic*) Frontinus (p. 39); or the reference to "Vitige," which all English scholars spell "Vitiges" (p. 50). Even the English style savours too much of the amateur in its rendering of the Italian—for example (p. 8), "may be *retained as being* absolutely correct" would be more idiomatically rendered "may be *held to be*," &c. Such blemishes are surprising, to say the least, and ought certainly to be removed in the next edition, even though they do not materially impair the value of a volume at once useful and well-timed.

Handbook to the Workmen's Compensation Act, 1897. By M. ROBERTS JONES. Cardiff: Tudor Printing Works. 1897. Price 1*s*.

THIS is a *brochure* of some seventy-eight pages containing the text of the new Workmen's Compensation Act and some comments on it such as a perusal of the statute suggests. It is no doubt intended to be the forerunner of a law-book upon the subject, and the commentary for the most part is subjoined to the text in the form of what is in effect a subsequent chapter. This is not a very convenient mode, from the reader's point of view, of arranging the materials of a work of reference. In this case, however, in which the authorities are largely, if not indeed mainly, derived from the debates in Parliament occasioned by the passing of the Bill there is a fitness in the collection in this way of the comments in a separate chapter which can be bodily removed from the book in a subsequent edition without serious mutilation of the part which will be left remaining. This no doubt will happen when the impromptu utterances of statesmen can be replaced by the more authoritative deliverances of the Courts.

The legislative experiment which this Act will set on foot is one of great range and interest, destined probably to have momentous consequences in the future. The trades immediately affected are railways, factories, mines, quarries, and engineering works. Indirectly affected, as being certain to share eventually in the benefits of the scheme, or of some modification of the scheme, if it should be found to work out to the advantage of the community, are practically all industrial undertakings throughout the length and breadth of the land. Its results will therefore be canvassed with the greatest eagerness as soon as there are any results to be reported. Till then it is perhaps premature to dogmatise as to whether the security afforded to the workman of compensation in any ordinary case of injury from accident will tend to occasion carelessness, and so to diminish the security of life and limb, or whether the new responsibility cast upon the employer will stimulate his interest in the safety of his workmen to such an extent as to increase the security of industrial employment. Anything like intentional self-injury is no doubt sufficiently guarded against by the clause which provides that the statutable compensation shall be disallowed in any case in which the injury is attributable to the serious and wilful misconduct of the workman injured.

Among the provisions introduced for the benefit of employers is a very proper regulation that the workman who makes a claim must submit to medical examination by a practitioner appointed by the employer and acting in the employer's interest. Medical men are to be appointed for the purpose of the Act by the Home Secretary, to whom the arbitrator or judge when adjudicating upon a disputed claim may refer for a report upon the injury occasioned by the accident.

LIBRARY TABLE.

The Origin of Matter and Force. By R. C. SHETTLE, M.D. St. And., Consulting Physician to the Royal Berks Hospital, Reading. London: Simpkin, Marshall, Hamilton, Kent, and Co. 1897. Pp. 58.—In this pamphlet an attempt is made to establish a scientific theory of the mutual relations of matter and force in the production of all physical and vital phenomena, and to show from a physical point of view that the *works* of God testify absolutely to the truth of the *word* of God. An immense amount of original thought is shown throughout every page. Dr. Shettle is a conscientious observer. We do not intend to enter fully into his arguments in this review, but we wish to point out to the author the wrong impression he makes when he uses the terms "inspired author" and "the first chapter of the book." Anybody who takes up this pamphlet and reads the first few pages will imagine that Dr. Shettle is about to justify the creation of the world in six periods of twenty-four hours; but as the reader advances he finds that such is not at all the writer's intentions; the period required for the creation of the world is not mentioned—the first two *verses* of the Bible only are taken and discussed with relation to accepted physical laws. We have read the arguments with considerable interest, but we have not space to set down the lines of thought along which he travels; we can, however, recommend the perusal of the treatise to all who are interested in the vital questions therein considered. Two of the paragraphs given in the summary which concludes

[1] THE LANCET, Dec. 20th, 1884, p. 1125.

the pamphlet may be quoted as showing the general idea of the work. "I have now attempted to show—(1) that the universe was created and is maintained in its present state by means of power which, when originally impressed, produced various degrees of density, and so brought every form of matter and gravity into existence. ..... (15) That the human soul is an entity, the germ of which was given by the Creator when man became a living soul, ... that the inner man is typical of the outer man; is the seat of memory; and records within itself the life-history of the individual, just upon the same principle as is embodied in the formation of the seed germ in vegetable life."

Traité de Gynécologie Clinique et Opératoire. Par S. POZZI, Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Broca, Membre de l'Académie de Médecine. Troisième édition. Avec 628 figures dans le texte. Paris: Masson et Cie. 1897.—This, the third, edition of Professor Pozzi's valuable work on Gynæcology maintains the high standard of excellence of those which preceded it. The work has been carefully revised, and several chapters have been completely altered. Especially is this so as regards the sections of the book dealing with asepsis, with the surgical treatment of fibromyomata, with the indications for vaginal hysterectomy in pelvic suppuration, and with the procedures suggested for the treatment of backward displacements of the uterus. There is an excellent account of Pelvic Hæmatocele and Extra-uterine Pregnancy. The author's opinion on the relation of these two things accords with that held generally here by the best authorities—namely, that pelvic hæmatocele in the immense majority of cases is "only a chapter in the history of extra-uterine pregnancy." Professor Pozzi's book ranks as one of the best standard works on the subject of which it treats. The references are both copious and cosmopolitan.

The Student's Guide to Medical Diagnosis. By SAMUEL FENWICK, M.D. St. And. and Durh., F.R.C.P. Lond., Consulting Physician to the London Hospital, and W. SOLTAU FENWICK, M.D., B.S. Lond., M.R.C.P. Lond., Physician to the London Temperance Hospital, Physician to Out-patients at the Evelina Hospital for Sick Children. Eighth edition. London: J. & A. Churchill. 1897. Price 9*s.*—Fenwick's Medical Diagnosis is so well known and has proved useful to so many generations of students, that it is unnecessary to do more on this occasion than call attention to the fact that this the eighth edition has been brought thoroughly up to date as regards the latest discoveries in the science of which it treats. Perhaps the statement that actinomycosis almost always ends fatally is a little too sweeping, for several instances of recovery, though not of course where the lungs or liver were affected, have been recorded under the use of large doses of iodide. This, however, is a slight blemish upon an excellent work. The descriptions are admirably clear, and the all-important subject of pathology is rightly put in the forefront. Any student who works carefully with this book in the out-patient room and at the bedside should have no difficulty, even if he cannot satisfy himself as to what a disease actually is, in being able to say pretty certainly what it is not.

La Technique des Rayons X. (The Production and Practical Employment of the X Rays.) Par ALEXANDRE HÉBERT, Préparateur à la Faculté de Médecine. Paris: Georges Carré et C. Naud. 1897. Pp. iv. and 134. Price 5 francs.—The practical applications of the x rays as described by M. Hébert are to all intents and purposes exclusively medical and surgical. Having introduced the subject with a few paragraphs on the recognition of foreign bodies, whether embedded in the tissues or impacted in the œsophagus, larynx, &c., he next deals with the observation of the process of repair occurring in bones from which sequestra have been removed, and in fractures which have been united by metallic fastenings (wiring, screws, &c.). Several instances are given in which the rays have been of service in the diagnosis of the diseases of bone, the most recent being a case communicated to the Academy of Sciences by M. Potain, who was able to distinguish chronic osseous rheumatism from gout by the fact that the increased density in the former condition, due to osteitis, caused the extremities of the bones to appear darker than usual on the fluorescent screen, whilst in the gouty patient the ends of the phalanges and metacarpal bones presented pale markings showing a diminution of the normal opacity. The examples of diagnosis of thoracic disease include three cases of inflammation of the right pleura with effusion, under the care of Dr. Bouchard; in the picture on the screen the affected side was darker than the other one as far as the upper border of the effusion, the shadow increasing in depth towards the base of the lung until the liver was reached; as the fluid became absorbed the transparency of the lung returned. In phthisical patients the transparency of the tuberculous portions of the lungs was found to be diminished. In addition to the various medical and surgical applications of the rays, some of which have just been enumerated, M. Hébert suggests that they may be of service in the detection of unauthorised articles sent through the post-office, and that they may assist jewellers in distinguishing between real and imitation diamonds. The sections describing the various forms of Roentgen ray apparatus and their use, as well as the chapter on photography, are very complete and are copiously illustrated with engravings. There are also ten full-page or folding plates with photo-prints of Roentgen photographs of hands, human fœtuses, small animals, &c.

The Return to Nature. By JOHN FRANK NEWTON. *The Life of William Lambe, M.D., F.R.C.P. Lond.* By E. HARE, C.S.I., Inspector-General of Hospitals. London: The Ideal Publishing Union. 1897. Pp. 158.—Of these two monographs, originally published at distant intervals, and now bound together in one volume, the second is the most interesting. Dr. Lambe, who was a graduate of Cambridge University, went from Warwick to London in the year 1800, and soon attained a somewhat prominent position in the Royal College of Physicians of London, being Censor for several years, Croonian Lecturer in 1814, 1815, and 1816, Harveian Orator in 1818, and Consiliarius in 1839. He was born in 1765, and having suffered much from ill-health while a young man he renounced animal food in 1805, and from that time till his death in 1847 he was a strict vegetarian. Moreover, he drank only distilled water, regarding which he wrote in 1819 that distillation properly conducted is really a less troublesome process than filtration. Mr. Newton, who wrote the "Return to Nature" about 1811, was a friend of Dr. Lambe, and, like him, a vegetarian. He lays considerable stress on the good health and good looks of the family which he had brought up on this system, and mentions with satisfaction that only sixpence was charged for medicine in his apothecary's bill for a household of seven persons in the year 1810.

JOURNALS AND REVIEWS.

The Monist.—In a paper on Egg-structure and the Heredity of Instincts Professor Jacques Loeb, of the University of Chicago, endeavours to show that the complicated mechanism of the instincts is the result of very simple circumstances which do not require any complicated structure for their transmission through the egg. For instance, the caterpillars of Porthesia (a butterfly) are oriented by light—i.e., the light causes them to bring their plane of symmetry into the direction of the rays of light

and to turn their oral pole toward the source of light. "This process is purely mechanical. The light produces in the skin of the animal a change (probably chemical), and this produces, through the central nervous system, changes in the tension of certain muscles. ..... This is also the mechanism by which the moth is forced into the flame. There is no such thing as an attraction of the moth by the light, but its fatal flight is only due to an orientation." Chemical substances emanating from putrefying meat or cheese have the effect of orienting the female of the common fly, the result being that the eggs are deposited on these materials by a reflex action without any assistance from either experience or conscious choice. Professor Loeb also offers an explanation of the continuity of bodily form in successive generations irrespectively of qualities transmitted by the egg.

Journal of the College of Science, Imperial University, Japan. Vol. X., Part 2.—The present number is entirely zoological and botanical, the titles of the six articles being as follows: A Species of Ephelota occurring in Misaki and its Spore Formation, by Professor C. Ishikawa; Iron Bacteria in the Warm Springs of Ikao, and Sulphur Bacteria in the Warm Springs of Yumoto, by Professor Manabu Miyoshi; the Development of the Gonophores in Physalia Maxima, by Professor Seitaro Goto; the Development of the Pollen Grains in Allium Fistulosum, by Professor C. Ishikawa; and the Formation of the Heart in Petromyzon, by S. Hatta. Abstracts of the papers on Iron Bacteria and Sulphur Bacteria have already appeared in THE LANCET, the former on Sept. 4th, p. 611, and the latter on Sept. 25th, p. 805. The first five articles are in German and the concluding one is in English. There are seven full-page plates of illustrations. The publishers are Maruya and Co., in Tokio, and R. Friedländer und Sohn, in Berlin.

Analytical Records
FROM
THE LANCET LABORATORY.

TABLOIDS OF ERYTHROL TETRANITRATE.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL-BUILDINGS, E.C.)

THE therapeutic action of the organic nitrates and nitrites, as is well known, has been very closely studied during recent years, with the result that some very valuable vaso-dilators have been added to the materia medica. The latest addition is represented in erythrol tetranitrate, which is now supplied in the obviously convenient form of tabloids. It is said to be valuable in conditions of cardiac pain with high arterial tension, and recently it has been employed with excellent results as a vaso-dilator in angina pectoris, and in the asthmatic attacks of chronic nephritis. In angina pectoris it appears to have been used not with the idea of replacing amyl nitrite and trinitrin in stopping an attack after it has manifested itself, but in preventing its onset.

(1) COCOA ESSENCE; (2) SOLUBLE COCOA.

(THE TOWER TEA, LIMITED, 5, JEWRY-STREET, E.C.)

The soluble cocoa (which is a cheap article) is admittedly a mixture, being mixed with arrowroot. "Tower Cocoa Essence" is a very pure cocoa which has had an exceptionally large proportion of the indigestible fat removed. It was found to contain only 19·5 per cent. fat, the lowest amount we have ever recorded. From a consideration of the amount of ash and its degree of alkalinity it is evident that the cocoa has not been treated with alkali. The ash amounted to 1·8 per cent., and its alkalinity to 0·51 per cent. reckoned as potash. The cocoa is not held in suspension in the infusion as long as desirable, and in a short time there is a considerable sediment at the bottom. There are now well-known processes in vogue by which this may be avoided and the cocoa made, as is dietetically desirable, more miscible.

DIGESTENZYMES (DAMANCY) IN TABLETS AND PILLS.

(AGENCY: ARTHUR AND CO., 69, BERNERS-STREET, OXFORD-STREET, W.)

Chocolate is the excipient in these tablets, which contain diastase, pepsin, pancreatin, and bismuth, together with phosphates and albuminoids. We have proved the digestive activity of the tablet on starch as well as on white of egg in both an alkaline and acid medium. The activity of the enzymes present is thus established. The tablets should therefore supply a distinct aid along the whole alimentary tract in providing the specific enzyme that may be indicated. It is stated that the enzymes are combined in such a way as not to have any prejudicial action on each other during the exposure of the food to the various digestive processes.

DIASTOL.

(THE STANDARD MALT EXTRACT COMPANY, LIMITED, 21, WATER-STREET, LIVERPOOL, AND 23, BILLITER STREET, E.C.)

Diastol is a comparatively thin, clear, limpid, reddish-brown liquid containing a very large proportion of the active digestive principle of malt. It contains a distinct amount of alcohol and possesses a strong, rich, malty taste. In our experiments we found that on adding a few drops of diastol to thick starch paste the mixture became brilliantly clear in a few seconds, and in as many minutes the solution was perfectly free from starch, complete conversion into maltose having resulted. The advantage of such a preparation in amylaceous dyspepsia is obvious, since all the digestive properties of diastase are presented unassociated with an excess of sugar as is the case in ordinary malt extracts. The dosage is thus very materially reduced, while its digestive activity upon starch may be relied upon.

EAU MAICHE.

(THE INDUSTRIAL INVENTIONS DEVELOPMENT COMPANY, LIMITED, BROOK HOUSE, WALBROOK, E.C.)

Eau Maiche is described as "bi-oxydised (*sic*) water," and is, in fact, nothing more than peroxide of hydrogen of such a strength that, as our analysis shows, one volume contains nearly three volumes of available or loosely-combined oxygen. Hydrogen peroxide is no new introduction as a cleansing and deodorising agent in the treatment of foul wounds and suppurating surfaces. The sample before us contained a distinct amount of chloride. Eau Maiche, however, is also recommended to be taken internally, but the claims made in respect of its curative effects are such as we are in no wise prepared to endorse. As one example of this we may quote the following: "There have been many cases of cancer where not only has growth been entirely arrested, *but, as far as can be judged in the time*, all traces have been removed from the system." The italics are ours.

ELECT EXTRACT OF COCOA.

(ROWNTREE AND CO., COCOA WORKS, YORK.)

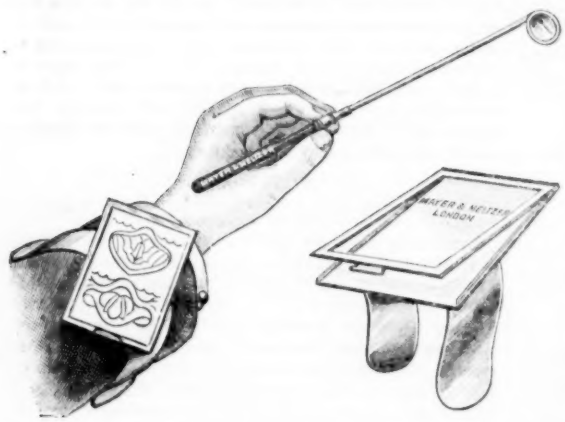
Our examination of this cocoa showed that, in the first place, a cocoa of excellent quality is selected; and, secondly, that it is carefully prepared so as to develop its nourishing qualities and to make it to a high degree miscible with hot water. These desirable characteristics have been attained by that peculiar mode of preparation based on the Dutch process which adds to the mineral constituents of the cocoa without necessarily making it alkaline. We found that the cocoa contained 32 per cent. cocoa fat and 7·84 per cent. mineral matters. The alkalinity of the incinerated cocoa was equivalent to 2·88 per cent. The cocoa gives a good, rich infusion of exceptional strength and of fine flavour, and is found to be free from objectionable sediment, even after standing for some time.

New Inventions.

A "WRIST-EASEL"

(With tracing tablets specially adapted for facilitating the drawing of the appearances found in cases of disease of the throat, nose, or ear).

THE "Easel" is a plate of thin metal measuring 3 inches in height by 2¼ inches in width. It is fixed on to the "wrist-clip," a somewhat omega-shaped strip of metal, which can be readily clipped on to the left arm and as readily removed. The easel plate is attached to this by means of a flattened loop of metal which slips on to a hook. In order that the plate may be in the most favourable position for drawing while the left hand manipulates the laryngeal mirror or the nasal or aural speculum this hook is placed obliquely on the "wrist clip." The drawing card is held firmly in position on the easel by means of spring catches or of a frame hinged to its top and fixed down over it. The illustration will convey the disposition of parts. The "tracing tablets" consist of layers of tracing paper, under the uppermost of which is placed a card bearing the conventional outline of the normal appearance of the part under examination—membrana tympani, larynx, &c. The observer can rapidly sketch over this the abnormal appearance even if not endowed with skill in draughtsmanship, and the rest of the outline can be traced out at the same time or later either by himself or by an assistant. The "outline cards" used by the deviser of the instrument represent the normal larynx during phonation and inspiration (on one card), the fauces, the post-rhinal image, the anterior nares, the transverse vertical section of the nasal cavities, the membrana tympani of each ear with (on the same card) the inner wall of each tympanum.



The ordinary indiarubber-stamped outlines may of course be used on pieces of paper of suitable size fitted into the "wrist-easel," but the "tracing-tablets" present the great advantage that the sketches made, while traced as far as possible on the given outlines, are not confused by the retention of these along with the new ones.

Messrs. Mayer and Meltzer, of Great Portland-street, W., have constructed the apparatus most satisfactorily.

DUNDAS GRANT, M.A., M.D., F.R.C.S. Eng.

PEAT WOOL (BÉRAUDINE).

IT is now many years since peat was first introduced as a surgical dressing, but the results were not perfectly satisfactory. It certainly absorbed the discharges well and kept them sweet, but the peat was very friable, and in great part it was in the form of a powder, and as it had little tendency to cohere it was necessary to enclose it in gauze bags. These objections detracted greatly from its value in surgical cases and it could not be called an elegant dressing. We have had the opportunity of examining the Béraudine Peat Wool, and may say at once that it possesses all the advantages and none of the disadvantages of the unmodified peat. All the dusty portion of the peat has been removed, and only the fibres of the mosses, of which the peat in great part consists, have been retained. The resulting product is a brownish mass composed of innumerable interlaced fibres; it is completely free from the powder, which is so great a hindrance to the employment of ordinary peat, and it forms a very soft dressing. Its absorbent power is great; we found that one specimen took up more than twelve times its own weight of water, and after it is fully saturated it has not nearly so much tendency to cake together to form a hard mass as cotton wool has. Its elasticity, too, is great, and therefore it is of value in cases where it is desired to exert an elastic compressing force. It is further claimed for it that it has antiseptic properties; without going quite so far as this we may say that it seems to possess the power of retarding the growth of micro-organisms, and this, of course, enhances its value. Altogether we consider it to be a useful dressing, especially in cases where great power of absorption of discharges is required. We are not aware of the cost of this peat wool, but if not more expensive than cotton wool it should largely replace that substance in surgical practice. It is manufactured by the Peat Industries Syndicate, Limited, 15, Walbrook, London, E.C.

FOCIMETER AND LENS ANALYSER.

THIS instrument has been devised by Mr. W. Banks, of Astley Bridge, Bolton, for the purpose of ascertaining the focal length of lenses and for indicating whether they are spherical, cylindrical, prismatic, or combinations of these. It is an instrument of precision founded on the principle of placing the lens, the power of which it is desired to ascertain, in the path of rays rendered parallel by a convex lens. If the spectacle lens to be examined be convex the parallel rays issuing from the lens attached to the focimeter are brought to a focus on a slip of paper which can be moved along a rod supplied with a scale or index and its strength easily read off. When the spectacle lens to be examined is a strong one the slip of paper will have to be brought nearer to, and when weaker to be removed farther from, the source of light. In the event, however, of the spectacle lens being concave the parallel rays issuing from the focimeter lens are rendered divergent and consequently do not unite on a focal point. In this case a second lens is introduced into the focimeter which is termed the analysing lens. This lens is of known, and rather high, power. As the position of the principal focus of this second lens is known, it is obvious that the focus will be removed to a greater distance from the lens after the rays have been rendered divergent by their transmission through the concave spectacle lens. The difference between the first and second foci gives the power of the concave lens. The analysis of a sphero-cylindrical lens is accomplished by placing it on the stage in the same manner as a spherical lens and the screen is moved along, commencing near the focimeter lens, until an approximate focus is obtained. The disk on which the lamp is mounted is then revolved until the image of the incandescent filament coincides with the axis of the cylinder, when the scale indicates the focal length of the combination and the line of light on the screen will coincide with one of the angular divisions into which the latter is divided and give the inclination of the axis of the cylinder. On turning the lamp at right angles to its former position the refractive power of the spherical lens alone will be indicated at some distance along the graduated scale. The first reading minus the second gives the strength of the cylinder. The deviation caused by prisms is also shown on the screen, which is marked in metre angles. Mr. Banks claims for the instrument that determinations of the power of all kinds of lenses can be made with rapidity and exactness. The few trials which we have made lead us to believe that it is a reliable instrument. The price, with three sets of analysers, special electric lamp, dry battery, and switch, is £3 17*s.* 6*d.*

THE LANCET.

LONDON: SATURDAY, OCTOBER 9, 1897.

THE medical session has been duly opened, and the introductory lecture still shows every sign of vitality. There are some schools, indeed, which affect a superiority to such things. At Guy's Hospital, for example, the opening ceremonies are little advertised and are said to be of a strictly domestic character. Students and their teachers and friends, however, gather together very much as in other schools, and are favoured with two addresses instead of one. On this occasion Sir SAMUEL WILKS, who presided, was greeted with unbounded applause evoked by the honours conferred on him by his Sovereign and by his College. Not only did he preside, but he delivered himself of many quaint and characteristic thoughts on the present state of the profession and of medical science, which will be remembered many years by the students to whom he spoke. In addition, he was succeeded by Dr. MUSPRATT, of Bournemouth, a loyal alumnus of the school, who delivered an address on several subjects of great practical interest to students, giving them some conception of the duties which they are being trained to meet and of the spirit in which those duties ought to be discharged.

Introductory lectures must not be regarded merely from the student's point of view, though to him, unless he be a very superior or a very conceited person, they cannot fail to be of use. They are of obvious interest to the public, as is shown by the space and the attention given to them by the leading organs of the press. The medical profession is essentially the silent profession, and its wisdom has to be expressed for the most part in the consulting-room of practitioners or in the houses of patients. But a very cursory study of society and of contemporary literature and civilisation is enough to show that this silence of the profession may be overdone. The profession has advice to give to the public, it has warnings to utter, it has claims to advance, it has complaints to make, and grievances to ventilate. For all these purposes there are few suitable opportunities, and one of the few is the introductory lecture at the opening of the medical schools. It is pleasant, too, to the profession to see the duty of the introductory address put occasionally into the hands of laymen. This course was happily followed in the present session at St. Thomas's Hospital, where Principal FAIRBAIRN discoursed on medicine as only a divine and a scholar of his learning and character could have spoken. It is so customary for members of the profession to hear from those outside it words of criticism or censure that it is gratifying that so capable a critic as Principal FAIRBAIRN should express the opinion that it is wonderful for medicine to have been able to achieve so much as it has done. At the Middlesex Hospital Lord STRATHCONA AND MOUNT ROYAL gave an interesting address on the medical schools of Canada and the devices of those who in the remote north-west regions of the Dominion have to meet their diseases without medical aid. He does not advise English medical men to go there without personal connexions or some predilection, as the medical schools of Canada, eleven in all educate a number of men practically sufficient to supply its wants.

One pleasant feature of the opening addresses of the medical schools is the wide range of subjects discussed. Occasionally this leads the orator to make a slightly excessive demand on the time of his audience, not to say their patience. But it would be difficult to say that any of the subjects were irrelevant or unfit for the care and consideration of medical men and it is no slight testimony to the interest infused into the subjects that such lectures—exceeding the length of ordinary lectures—should be so well listened to. Sir JAMES CRICHTON-BROWNE excelled himself in the eloquence with which he vindicated some old-fashioned doctrines of mind and conscience while showing his familiarity with all that is latest in the achievements of physical research. His protest against the realism and coarseness of much of our current literature and the disposition to exalt the natural above the moral in man is much needed, and it is to be hoped will be taken to heart by writers. He speaks with a large knowledge and experience of man both in health and disease, and he magnifies free will and the individuality of man as distinguished from the most anthropoid of his fellow creatures. If few of us can play the part of great men that "exceed their antecedents," and have no explanation in their environment, we can all "build up the being that we are" and in a smaller sphere magnify our free will with no other compulsions than those of duty and of virtue. It will be well for every student to read Sir JAMES CRICHTON-BROWNE'S address in its entirety and to yield to the spirit of its teaching—"hold fast to the importance of the individual and do not worry yourselves about the insignificance and evanescence of man." The address of Dr. WILLIAM CARTER, of Liverpool, at Charing-cross Hospital will also well repay perusal with its fine appreciation of "the everlasting expansiveness of medicine," of the victories over disease which it has already achieved, and greater ones yet in store. By way of emphasising the indispensable importance of independent and close personal observation of disease and the exercise of a manly and independent judgment he quoted the case of LAENNEC as that of one whose great work was founded mainly on cases accurately observed in his student days. While Dr. CARTER and other speakers recognised the inevitable tendency to specialism and division of work, they were careful to deprecate all narrowness and to insist on the necessity of broad general knowledge of disease as the only adequate basis for the erection of special knowledge and practice. It is simply pitiable to see a narrow specialist spending his own strength and his patient's perhaps scanty means in investigating a prominent symptom of a patient's case and leaving unnoticed the wider taint of the blood or constitution of which the local evil, for which he is sought, is a mere limited and secondary expression. Dr. CARTER was justified in insisting on the enormous influence of medical opinion on society. The questions on which medical opinion is desired, as

Mr. RAYMOND JOHNSON pointed out, are ever extending with the growing range of medicine itself, and tend more and more to share with philosophy, and even divinity, the regulation of man's life in all its stages. The medical man must adapt the teaching that he has to give to all classes of men. It may be true, as Dr. CARTER says, that our effect will depend entirely on the respect which we can gain for our opinions among the thinking portion of mankind who constitute its true rulers, but grievous mischief creeps in—witness the position of the vaccination question—if we cannot also influence the imperfectly educated classes who are now in a very real sense our rulers. Dr. PATRICK MANSON reminded us of the extent of our empire by pointing out to us that many of our students will be called on to treat diseases of climates and countries other than our own, and urged the importance of including instruction in such diseases as a part of the regular curriculum. This ought to be done by the Medical Schools and Examining Boards apart from the influence of the General Medical Council. But it is so urgent that the General Medical Council will not always be justified in withholding a strong expression of its opinion. Mr. RAYMOND JOHNSON did well to impress on his hearers the importance of individual practical work in the fundamental subjects of anatomy and physiology and to remind them that examinations are not the final test of a man's worth. Is it not a condemnation of much in our present examinations that they are not more practical in their nature, that they do not more faithfully tell a man's character and capacity, and forecast the result of the great examination that awaits all students after qualification—their ability to cope with actual disease in actual patients, or, as he well puts it, with "the disease and the person"? Dr. PYE-SMITH at Sheffield, Mr. D'ARCY POWER at the Royal Veterinary College, and Mr. J. GROSVENOR MACKINLAY at the Royal Free Hospital, illustrated other aspects of medical study which we have not space to discuss. Students may be somewhat alarmed at the range of knowledge covered by these addresses and the amount of study they imply. Let them note also that the best teachers enjoin rest and recreation as well as work. Ours should be a cheerful profession. We study disease with a view to its mitigation and removal—even its prevention. Let students learn to avert it by lives in accordance with the laws of health and with the high philosophy that is enforced in the able addresses which it has been our pleasure to publish.

THE rapid development and widespread prevalence of typhoid fever at Maidstone clearly indicate that we are in the presence of an epidemic spread by water. Other causes may produce epidemics, but none are so effective in the rapid propagation of the disease as a contaminated water-supply. How fatal such a contamination may be has been proved only too often. Already 4 per cent. of the population at Maidstone have contracted the disease, and this reckoning is based on the population of the entire town. The number of inhabitants of the central district, which was not supplied with the contaminated water and which consequently escaped, is not known, otherwise it could be shown that, in the parts of the town where the infected Farleigh water was drunk, the percentage of cases is much higher. Yet results far worse than this have followed on the contamination of a water-supply. For instance—and to give an extreme case—in 1887 an epidemic of typhoid fever due to water contamination broke out at the Collège de Cluny in the department of Saône-et-Loire, France. There were 215 pupils in this school, and no less than 119 suffered from the fever. This is not 4 per cent. of the population, as at Maidstone; it is more than 50 per cent. But this brings us face to face with an all-important difference in predisposition which has not yet been sufficiently noticed, discussed, and examined at Maidstone. It is obvious that the pupils living in a large school are all submitted to the same predisposing influences. Whatever defects there may be in the drainage, the ventilation, the food, and the condition of the subsoil of the school, the pupils collectively experience these unwholesome influences. The same cannot be said of the inhabitants of a town. There is a far greater variation of conditions; and, consequently, though the contaminated water may be equally distributed to each, the effects it produces are very different. Therefore, though it is in the first instance essential to ascertain what is the distributive medium or cause of an epidemic, this in itself in no wise suffices for the thorough elucidation of the problem. It is first necessary to discover what is the distributive medium, because the most practical measure that can be taken during the emergency is to lay hands on that medium and destroy it. But it would be worse than folly to imagine that, having done this much, no further measures need be adopted. If we treat a patient we have to deal, not only with the acute stage of the disease, but above all true medicinal treatment depends on the successful treatment of those constitutional conditions which rendered the disease possible. A town, like a patient, is composed of individual molecules which together conglomerate to form a collective whole. Some parts of the body are strong and wholesome; others are weak and susceptible to disease. The object of sanitary science is to discover and remove the cause of this difference. If no such difference exists at Maidstone why is there not the same proportion of cases of fever at Maidstone as at the Cluny school? Surely it is in the existence of these differences that we shall find most valuable indications as to the true means of preventing or limiting future epidemics.

Guided by these principles, our Special Commissioner, who proceeded to make investigations on the spot, first fully described the water-supply, as this was undoubtedly the medium by which the epidemic was spread. This week, however, we publish an account of what may be qualified as the predisposing causes. These are more complex, but they are also very suggestive. First with regard to the different levels in the town. On either side of the two rivers, the Medway and the Len, there is a zone of considerable size where the ground is low-lying and does not in any place exceed an altitude of 40 ft. It is precisely on this low-lying ground that there has been no fever. Then, if we take the next zone, which varies from 40 ft. to 100 ft. in altitude, we find here also a general immunity from the fever. The exception is in the south-eastern district; but even here the epidemic appears as if it only began at an altitude of 78 ft. The map which we publish likewise indicates the fever-stricken districts, which are for the

most part above 100 ft. in altitude. These last correspond exactly with the districts where the contaminated Farleigh water-supply was distributed, but it will be seen that they also correspond with the high levels. The suggestion is then made that the sewer air has easier access to the dwellings on these high levels. The branch sewers run down steep gradients to collecting mains below, which are badly constructed, having insufficient fall. The branch sewers may therefore act as ventilating shafts for the main sewers which pass below and which generate a great volume of sewer gases because they are not self-cleansing. On the other hand, sufficient details are given to show that the house drains are far from perfect. Sewer air will naturally be attracted by the heat within dwellings and thus reach the inhabitants unless the house drains are very carefully trapped and ventilated. From all these facts, we are justified in surmising that the inhabitants of those streets and houses where the greatest number of cases of fever has occurred (and these streets are also marked in the map), have been breathing a larger volume of sewer air than their more fortunate neighbours. In the lower districts where the branch sewers do not descend such sharp gradients they are less likely to act as ventilation shafts; and though these lower districts were not supplied with the contaminated water, their inhabitants must, to some extent at least, have occasionally drunk the contaminated water when they visited friends in what subsequently became the infected areas. Yet these inhabitants of the central district have, practically speaking, escaped the epidemic. It would seem as if they were living under conditions rendering them less susceptible to the typhoid contagion.

Then there is also the question of the subsoil that may help to account for this marked difference in respect to predisposition. Mr. MATTHEW A. ADAMS, medical officer of health of Maidstone, has already shown, in a remarkable paper communicated to the International Congress of Hygiene, held at Budapest in 1894, how the prevalence of diphtheria in Maidstone followed upon the rising of the water levels in the subsoil. He is now engaged in making similar comparisons with regard to the present epidemic of typhoid fever, and we may here again find another predisposing cause. We have already before us this fact, that a certain portion of the soil in the non-infected district is of clay and therefore less porous than the soil in the infected districts. Also, it has been found that some of the sewers in the infected district were in a very defective condition and likely to contaminate the surrounding subsoil. Consequently, it would be most imprudent to rest satisfied with condemning only the water-supply. If immunity from typhoid fever depended only on a pure water-supply and not on any other consideration, then—if we may judge from the precedent afforded by the experience acquired at the Cluny College mentioned above—there should be at Maidstone, not 1400 to 1500 cases of typhoid fever, but something more like 15,000 cases. Most fortunately, the inhabitants of Maidstone are not all equally predisposed as were the pupils of the college in question; but does not the enormous difference in the percentage of cases at Maidstone and at the Cluny College clearly indicate the immense importance of studying, and then of removing, all predisposing influences? That such influences still exist at Maidstone our Special Commissioner has attempted to demonstrate; and in so doing will, we believe, have rendered no slight service to the cause of sanitation.

THE votes of the registered medical practitioners of England and Wales must all be recorded by to-morrow (Saturday), and doubtless the great majority of voting papers have been returned. It is to little purpose to enlarge further on the questions at stake or the fitness of the rival candidates. It is satisfactory that the contest has been practically narrowed to one of two candidates. As the profession grows in experience of its elective duties and in detecting the qualities which go to make a really effective and desirable representative it is reasonable to hope that candidates will become fewer in number and sometimes will agree with the number of the vacancies to be filled. The opponents of Direct Representation feel fortified when they see anything like the arts of electioneering practised in the selection of a member of the General Medical Council. This is a strong reason why the friends of Direct Representation should avoid the appearance of such arts. It would be pitiable indeed if it should prove advantageous to a candidate to have recourse to methods for influencing registered medical men similar to those which are considered fair and even necessary in political warfare. Sir WALTER FOSTER cannot be charged with having instigated the notice of himself in the *Young Man* with a view to his candidature for the vacant seat on the General Medical Council. This for two reasons—it must have been well in hand, we imagine, before he could have been aware of the mysterious movements in Dr. RENTOUL'S mind, and, secondly, he must have been cognisant that such a notice was not likely to commend itself to medical men or to help his election. But we are sorry to find him making a defence of the notice even as a political method. Such notices are accorded by many journals of which better things might be expected to members of the profession, and presumably they have some value or they would not be desired. But that a politician of Sir WALTER FOSTER'S calibre, and an eminent member of the medical profession, should justify such a notice is unsatisfactory. He cannot complain at being asked to explain his responsibility for it, and while we readily acquit him of any reference to the election to the General Medical Council in sanctioning it we are still sorry that he should in any way assist in the diffusion of such literature.

The result of the election will not be officially declared until Saturday, the 16th inst. As far as the programmes of the rival candidates go the difference between them is very slight. Our reasons for preferring Mr. VICTOR HORSLEY on this occasion are that he was first in the field, that he has a quite exceptional knowledge of the defects of the Medical Acts, and that he feels a remarkable sympathy with the rank and file of the medical profession. Both candidates are members of the British Medical Association. Sir WALTER FOSTER is the older member and has very strong claims—claims of past services and claims of present

ability. But these were not pressed last year when the pressing of them would have involved no opposition to one of the most brilliant and, we will add, one of the most active members of the Association, so that we may be allowed to express our feeling that the prominence given to them now is a little inopportune. The result will soon be known. Whichever of the two candidates is elected the cause of Direct Representation will not suffer, and we may expect the Council to go on its way without those explosive incidents which are injurious to its reputation as the controlling body of the medical profession and as an intermediary between that profession and the State.

Annotations.

"Ne quid nimis."

THE NEW GOVERNMENT LABORATORIES.

THE English nation is supposed to move slowly in regard to the application of science to industrial processes, and of late we have heard a good deal of the necessity for educating men in special scientific work with the view of applying their knowledge to the manufactures and arts. Germany we know is a long way ahead in this respect, but in the completion of the new buildings last week close by King's College Hospital, which contain admirably equipped laboratories for carrying on the duties of an important department of revenue work, this country has taken an initiative. For not the least interesting feature about the new building is that it is the first State laboratory in this or any other country which has been specially designed for the departmental work which was formerly carried out in a few incommodious rooms in Somerset House. The work of the Somerset House chemists has increased enormously during the last decade. Originally—and it is now more than fifty years ago—the principal work done for the Government was that of detecting the adulteration in tobacco. This soon extended to the examination of beer. The laboratory then consisted of a few rooms situated in Arundel-street, Strand. So rapidly did the field for Government analysis widen that special rooms were provided in Somerset House in the year 1859. And here the services of the chemists proved to be in request by almost all the Government departments. Thus to them were referred the stores, provisions, and other supplies for the troops, and perhaps the India Office put forward more claims to the skill of the department than any other section of the Government. Later, when in 1875 the Food and Drugs Act came into operation, the onus of reference was thrown upon the staff at Somerset House who thenceforward came to be regarded as officially the Government analysts and referees. All this has involved, as might be imagined, a large increase in the working staff and a need for better accommodation suited to the increasing requirements. In 1867 the laboratory accommodation at Somerset House consisted of at the most three rooms, but later twenty rooms were occupied for the purpose. In 1867 again the number of samples analysed was 9055, and in 1887 39,224, and last year no less than 64,664 samples were analysed. These figures appealed to the Treasury Office when they were brought to their notice, with the result that it was agreed to provide a separate establishment for the work, and Dr. Thorpe, who was appointed the Principal of the Government laboratories a year or so ago in succession to Dr. Bell, undertook to draw up the plans of the new laboratories and to supervise their construction. All this has been done, and the laboratories are practically complete and occupied by a staff numbering over seventy. It need hardly be added, in view of Dr. Thorpe's great practical knowledge of the construction of the leading laboratories abroad, that the new Government laboratories are equipped with appliances and apparatus that are fully in compliance with modern requirements. The sum voted by the Treasury towards the completion of the work was nearly £30,000. Our own interest in the new Government laboratories is centred of course in the administration of the Food and Drugs Act, in the disputed cases coming under which the chemists at the new laboratories are the referees. The public analysts have from time to time entered many complaints of the reticence of the Government chemists as to the methods they employ and have taken very strong exception to the apparently low standard of food, and especially of milk, which they have adopted in reference cases. We confidently expect that these objections will be met when the new Bill comes into operation. It cannot be doubted that the work of reference is entrusted to skilled men, and it is only as to the interpretation based upon the results of analysis that the differences of opinion have occurred. But we believe that the standards thus adopted by the referees were not below those capable of justification under the present law. In the proposed new Bill a court of reference is suggested which should be empowered to deal with the subject of prescribing limits and standards of the quality and purity of food as well as with other matters such as the use of antiseptics. In whatever way the administration of the Acts may be modified in regard to referred samples it is evident that the new laboratories and the increased accommodation will considerably facilitate the work of this department and add to its usefulness in the interests of the general community.

THE HEALTH OFFICER OF THE CALCUTTA CORPORATION.

SANITARY science has conferred many benefits on the community, but a cordial public recognition of the fact is so uncommon an event that an instance of it deserves special notice. It happens now and then that medical or surgical services rendered to individual patients may be substantially rewarded, but the care of the public health seems not to appeal either to sentiment or to the popular imagination; its results are not always immediately apparent, and from the nature of the case it is inevitable that some departments of medical practice must dwindle in proportion as preventive medicine advances. The union of sanitation and preventive medicine has had the effect of prolonging the average duration of human life, of raising the general standard of health, and of controlling epidemics so that they are now but little more than semblances of what they used to be in the pre-scientific era. To the readers of THE LANCET these are mere commonplaces, but the public at large bestow only vague and casual attention on such subjects unless their interests are touched by the inconveniences of quarantine in foreign countries or by the heavy outlay entailed by modern drainage systems or by the demolition of insanitary buildings. Under these circumstances it is gratifying to find that at Calcutta the work of Dr. W. J. R. Simpson, the health officer of the corporation, is so highly appreciated that on the occasion of his retiring from his appointment an influential public meeting was held for the purpose of presenting him with a farewell address. The ceremony took place in the Dalhousie Institute on Sept. 4th, and among the numerous company were the Honourable Mr. Justice Rampini, Mr. W. R. Bright, chairman of the corporation, Colonel Wilford, Mr. E. N. Baker, collector of Calcutta, Mr. W. Parsons, secretary of the Bengal chamber of commerce, and Mr. L. P. D. Broughton, Administrator-General of Bengal; many members of the corporation were also present, both British and natives being represented. Mr. Bright

presided, and opened the proceedings with an eulogistic speech in the course of which he said that for the past eleven years Dr. Simpson had brought all his energies to bear on the task of improving the sanitation of the town, and now that he was compelled by ill-health to leave Calcutta he would in his retirement carry with him the good wishes of all who knew him. Dr. Bolai Chunder Sen, president of the Calcutta Medical Society, then read the farewell address, which has been published in the Calcutta *Englishman*, and contains the following passage: "The period of your incumbency as health officer of this city has been signalised by many important sanitary measures, the credit of which is largely due to your undaunted zeal and unwearied perseverance. Among the more important of these have been the inauguration of measures to prevent pollution of the subsoil and to place on a sounder basis the drainage system of the town; the introduction of the principle of incineration of the town refuse; the demonstration of the need of efficient building regulations for the town; the organisation of an agency for the investigation of the causes and course of preventable diseases and the adoption of preventive measures; the establishment of a well-appointed laboratory, the first of its kind in India, for food analysis and bacteriological research; the reorganisation of the departments of food inspection and registration of births and deaths; the testing of the results of Professor Haffkine's system of anti-cholera inoculation and the timely precautions taken to prevent the importation of plague into Calcutta. The medical public is under deep obligation to you for re-affirming the relationship between small-pox and cow-pox; for creating an epoch in the history of medical progress in India by largely assisting to bring to a successful issue the first Indian Medical Congress; for urging the necessity for the whole of India of an organised sanitary service which the Government of India has fully endorsed. Your successful researches into the bacteriology of rinderpest, your contributions to the etiology of tropical diseases, and the able manner in which you have acquitted yourself as president of the Calcutta Microscopical Society, as secretary to the Calcutta Medical Society, and as editor of the *Indian Medical Gazette*, will be long and gratefully remembered by your colleagues in the medical profession in this country. In bidding you farewell and God-speed we wish you and Mrs. Simpson a safe and pleasant voyage home and long life with health and happiness." Mr. Hughes, chief engineer of the corporation, then made some complimentary remarks, after which Dr. Simpson spoke at considerable length, saying that the occasion was one to which his wife and himself would look back with pride and that this kindly acknowledgment of his work was particularly gratifying and refreshing after the labour of eleven years, which had been spent in placing the health interests of Calcutta on a sound basis. He concluded as follows: "I wish to thank the members of my own profession for the appreciation which they have expressed of my work in connexion with the Indian Medical Congress and the proposals therein made and afterwards approved of by the Government of India for the organisation of a sanitary service in India. I trust that it will not be long before the proposals of the Medical Congress are put into practice, to the advantage of the Indian medical profession and of the country at large. In leaving Calcutta I am specially sorry to take leave of the officers of my own department who have worked with me so long. There is Dr. Sen, the able assistant health officer, who has been with me for nearly ten years; there is Dr. Ram Mitter, the deputy superintendent of vaccination, whose services in the cause of vaccination in Calcutta are invaluable; there are also Dr. Dutt and Dr. Ghose, both expert analytical chemists, Dr. Mittra, Dr. Mookerjee, Dr. Lahiri, and Dr. Chatterjee, excellent food inspectors, Dr. Chowdry, an expert at anti-cholera inoculation, Dr. Dass and Dr. Roy, excellent medical inspectors able to find out by inquiry, if any one can, the causes which have led to an outbreak of disease. In departing from Calcutta I have the satisfaction of knowing that I leave behind me a small band of Indian medical men, the first of their kind, who are sanitary experts and who are thoroughly trained in the principles and practice of public health." Mr. R. D. Mehta, in proposing a vote of thanks to the chair, observed that it was to a large extent through Dr. Simpson's efforts that the plague had been prevented from reaching Calcutta. The proceedings then terminated. Before going to India in 1886 Dr. Simpson had acquired a large experience in the diversified questions connected with public health administration. For five years he was medical officer of health and police surgeon to the city of Aberdeen; he was also lecturer on public health in Aberdeen University and president of the Sanitary Association of Scotland. In 1883 he was in Egypt observing the epidemic of cholera, and he drew up a report on the subject which was presented to Parliament in 1884; in the same year he was appointed to hold a special inquiry on behalf of the Local Government Board into the prevalence of diphtheria in Somersetshire and Wiltshire.

ERGOT BEFORE DELIVERY.

A CASE was recently reported in the Manchester papers in which a midwife was stated to have given a dose of ergot in a case of complicated presentation where she ought at once to have sent for a medical man. Mr. Broadbent was ultimately sent for. He found it to be a presentation of footling, funis, hand, and vertex. The midwife seems to have examined the case at 9.45 P.M., and then, instead of sending for medical assistance, she appears to have failed to recognise the complexity of the case, and administered a dose of ergot. Mr. Broadbent, who saw the patient only at 11.30 P.M., found the presentation as above stated; the cord was pulseless, and all the parts presenting were jammed, so that he was not able to deliver till 2.30 A.M. An inquest was held on the child, at which the midwife said in reply to the coroner that when she gave the ergot she was not aware of the serious nature of the case. The practice of giving ergot before delivery merely to expedite labour is undoubtedly bad. In all well-managed maternity departments midwives and students are forbidden to give ergot till after the placenta has been expelled. The tonic contraction of the uterus produced by ergot is fatal to the child by interfering with the utero-placental circulation if for any reason delivery does not take place rapidly after the ergot has been administered; and there is, as regards the mother, a very appreciable risk of rupture of the uterus, if there is any obstacle to the expulsion of the fœtus.

THE VALUE OF CLINICAL OBSERVATION TO THE STUDENT.

OWING to the multiplicity of subjects to which the unfortunate medical student is now required to devote himself for the purpose of examination there is no small danger that he will be led to forget the practical part of his profession, and two of the addresses delivered at the opening of the medical year laid special stress upon this matter from different points of view. At St. Mary's Hospital Dr. W. J. Gow referred to the importance to the student of familiarising himself with medical and surgical technique and quoted a remark of Lord Armstrong to the effect that a man's success in life depended far more on his capacity for useful action than upon his acquirements in knowledge. Intelligent clinical study, too, said Dr. Gow was of the utmost importance. At Leeds Mr. T. R. Jessop recounted his experience at Moscow and related how surprised he was to find what a magnificent

hospital that ancient city possessed. Standing about two miles outside the city it consisted of some dozen blocks, every one devoted to some special branch of medicine or surgery.[1] This building had been erected by the munificence of private individuals, supplemented by a Government and municipal grant. Here, then, was the centre for teaching the future medical men of Russia, and Mr. Jessop naturally expressed a hope that a similar institution might arise in England. The nearest approach to the Moscow ideal is afforded by the hospitals of the Metropolitan Asylums Board, but even they are not Government institutions though they are municipal in a way, and means for familiarising the student with the clinical details of the infectious fevers are still very far from complete. As to a State grant for hospitals the only instance we can call to mind of the State dealing with a hospital is not encouraging, for it is the case of the robbery of the revenues of St. Bartholomew's by Henry VIII. In time, however, the State may recognise that it is as important to train up medical men as to teach board school children "social economy."

CONGENITAL FACIAL PARALYSIS.

AT a recent meeting of the Society for Neuropathology and Psychiatry in Moscow Dr. Minor showed a case of this character presenting some interesting features. The patient was twenty-six years old. He was born of an intemperate mother, but no instruments were used at his birth. He was, however, much asphyxiated, being of a dark blue colour all over. At the moment of birth it was observed that the face was strongly drawn to the left side. This condition still persisted and in an aggravated form, but psychical development had gone on naturally until he was eighteen years of age, when he began to suffer from epileptic attacks. When he was shown there was facial paralysis on the right side. The zygomaticus major had escaped and so had the upper part of the orbicularis oris. The platysma was much atrophied and no electrical response to either current could be obtained in the muscles other than those mentioned as having partially or wholly escaped. Dr. Minor regarded the condition as the result probably of an intrapontine lesion, perhaps a hæmorrhage in the facial nucleus occurring at the time of birth and associated with the asphyxia which was present. Some speakers, however, thought that the lesion might be in the nerve. Similar cases, it is pointed out, have been described by Schultze and Bernhardt, and also by Möbius. The last-named has described them as cases of nuclear disappearance in infancy.

ANOTHER RAILWAY FATALITY.

DEATH has once more come to a passenger while travelling by train without any accident having happened to the train itself. On the arrival of the Manchester express at Liverpool on the night of Sept. 30th the window of a first-class carriage was found to be broken and the carriage and footboard were bespattered with blood and hair. On the line being searched between Manchester and Liverpool the body of a man much mutilated was found on the line close to Brunswick Dock Station at the south end of Liverpool. The body was lying near some empty coaches which were standing in a siding and the window in one of them was broken. At the inquest held upon Oct. 2nd it was stated by the foreman shunter who searched the line that the side lamp on the stationary train, which was unlighted, was much bent. The carriages were standing in a tunnel and close to them he found the body of a man. The right leg was cut off and the head was much injured. It was not the custom to light the lamps of a stationary train. It seems evident that the unfortunate man, who has been identified as Mr. H. S. Harvey, must have been looking out of the window—or rather leaning out of it—have come into violent contact with the broken lamp, and so have been dragged out of the window, and cut up by the train in which he had up to that moment been travelling. There are cases on record of travellers having been killed by striking their heads against something when looking out of a carriage window but we do not remember any instance of a passenger being dragged out of the carriage. It is always easy to be wise after the event, but it cannot be too strongly impressed upon the mind of the travelling public that to lean out of a carriage window is highly dangerous at all times, and doubly so when passing through a tunnel or in the dark. The jury added a recommendation that stationary trains on the central line should in future be lighted, but probably if this had been the case in the present instance it would have made no difference. The serious part of the matter seems to us to be the statement of the foreman shunter that there was only a space of twenty inches between the projecting part of the empty train and any train passing it. To widen the tunnel would be, we suppose, a matter of some difficulty, but surely a siding might be constructed for the reception of empty trains in some other part of the line where more space could be afforded.

MEDICAL EVIDENCE AT CORONERS' INQUESTS.

AN inquest recently held at Twerton, near Bath, disclosed some interesting medico-legal points. Shortly, the case was as follows. A man, aged forty-seven years, reached his home about half-past eleven at night and almost immediately went out to the stable. About ten minutes afterwards his wife called to her son that she heard her husband groaning. The son found his father lying on the footway near the stable, and on being questioned he replied: "Someone knocked me down." The son raised him up, and he managed to walk two yards, but could go no further, and he never spoke again. The son added that the father's trouser pockets were turned inside out, and a £5 note which deceased was supposed to have had in his pocket was not there. In contradiction to this Dr. Heathcote, who was the first medical man to see the deceased, said that on arriving he found him lying dead on the footway; he wore trousers with a flap, and the right-hand pocket was lying outside the flap, but not turned inside out. Deceased had a wound on the back of the head and a slight cut over the right eye. At a post-mortem examination he found a lacerated wound over the left elbow and a bruise over the right eye. The heart was enlarged and fatty, the liver fatty, and the spleen and kidneys were engorged with blood and enlarged. In his opinion death was due to cardiac failure, the wounds on the head and elbow were caused by the fall, and the bruises on the face by the deceased having struggled in the road or having fallen against the wall. He thought that the deceased fell in the middle of the road, got up, walked to the foot-path, fell again, and then got up and fell or leaned against the wall, on which there were marks of blood. People dying under such conditions often had erroneous impressions as to the cause of their falling and were apt to attribute the pain they felt in the head to a blow. The solicitor representing the deceased's family put a series of questions to Dr. Heathcote suggesting that a person dying from cardiac failure could not get up after having fallen. Could Dr. Heathcote cite any similar case from a medical book as to this point and his evidence as to erroneous statements being made under similar circumstances? To this Dr. Heathcote replied that he was giving his own statements,

[1] Illustrations of the Moscow Clinique and of some of its various departments will be found in our Special Supplement, "Medicine, Past and Present, in Russia," published on Aug. 7th.

and the coroner refused to allow the solicitor to pursue this line further without notice. The solicitor called another practitioner (Dr. W. H. Cooke), who said that he considered that a person dying from sudden cardiac failure would not get up after having fallen down. In the end the jury returned a verdict of death from disease of the heart, but whether accelerated by shock of any kind there was no evidence to show. We think everyone will agree that the coroner deserves the thanks of the profession for the way in which he conducted this inquiry. Here were two medical men giving evidence on the same questions and taking an apparently opposite view, but, as the coroner said in summing up the case, Dr. Cooke had not attended the post-mortem examination, but simply gave his evidence on generalities. As to the verdict, he said, they might return one absolutely in accordance with the evidence of Dr. Heathcote. This the jury proceeded to do and we think everyone will agree with it.

SMALL-POX IN CYPRUS.

ACCORDING to a communication from Reuter's agent at Larnaca, published in the *Times* of the 2nd inst., an epidemic of small-pox broke out towards the end of last month in Cyprus and was especially severe in the Turkish quarter of Larnaca, other parts of the town having been likewise attacked. The appearance of the disease in Larnaca was soon followed by an exodus of people from that place to other towns and villages in the island, and it is feared that the disease disseminated in this way may soon become widespread unless prompt and stringent precautions are taken. The disease is stated to have been introduced by a Turkish family from Béirût. Very inadequate means for the isolation of the sick, and those of the most primitive kind, exist in Cyprus as may well be imagined; there is a paucity also of medical attendance; and we know next to nothing of the condition of the population of Cyprus as regards vaccination. It seems probable that the island will furnish another object lesson of what the ravages of small-pox may effect among an unprotected population. There are some advantages in living under British rule under such circumstances as these, for we do possess laws for the repression of contagious disease and the machinery for practically applying them.

VARICELLA GANGRÆNOSA.

OUR knowledge of varicella gangrænosa is still so incomplete that every well-recorded case is of interest. In the September number of the *Archives of Pediatrics* are given two good examples of the disease. The first is described by Dr. William F. Lockwood, of Baltimore, and is accompanied by a photograph. A well-nourished female child, aged two years, exhibited the eruption of varicella. Next day a wide zone of dusky red dermatitis occupied nearly the whole surface of the trunk. Rapid ulceration of the spots within this area ensued. The contents of many of the vesicles became hæmorrhagic. Bleeding from the mouth and nose occurred and blood was extravasated in the skin over the pubes and about the genitals. The gangrenous spots varied in depth, and in size from a pea to a surface measuring 1 in. by 2 in. They often occurred where there were no varicella vesicles. On the trunk were large patches where the epidermis only was removed, exposing purplish dry surfaces. These were due to the dermatitis, and did not radiate from the chicken-pox vesicles. The deeper spots showed a dry, hard, black eschar in the centre, an ulcerating border, and an elevated inflamed edge. The left eye was closed from swelling and ulceration of the upper lid, and there was free purulent discharge from between the lids. The child emitted an extremely fetid odour. Death took place on the eighth day, apparently from broncho-pneumonia; but satisfactory examination of the chest was not possible. The second case, described by Dr. Lewis Mann Silver, of New York, was that of a boy in good condition, aged two years. The illness began with diarrhœa, which was followed by a temperature of 103° F., lethargy, and a convulsion. On the fourth day the body was covered with the characteristic rash of varicella. The mucous membranes of the mouth and conjunctiva were congested. On the third day of the eruption circles of congestion from ¼ in. to ½ in. in width were noticed around several of the spots, which had become black and depressed in the centre. Next day three gangrenous areas, measuring from 1 in. to 2½ in. across, appeared on the neck. On the following day both eyelids were so much swollen that they could not be opened, and there was a profuse discharge of blood and serum from the mouth and nose. The urine contained abundant albumin and numerous granular casts. The child died in the evening soon after a convulsion. It is curious that varicella, the mildest of all the infectious diseases, should present such a grave complication. What explanation can be offered? Mr. Hutchinson, who first described the disease, attributed the occurrence of the gangrene to idiosyncrasy, as it usually occurred in healthy children. Dr. Barlow, however, denies this and asserts that in none of his cases were the children healthy. A second infection by some microbe supervening on the varicella has also been offered as an explanation, but evidence on this point is wanting.

EXACT LOCALISATION AND MEASUREMENT BY THE X RAYS.

AS most workers with the Roentgen rays know it is often very difficult to ascertain by the photographs they produce the exact locality of foreign bodies embedded in the tissues. The x ray photograph fails to give any definite information as to the exact position and size of the foreign body, and the surgeon when exploring for it has met with disappointment and dissatisfaction because he may have caused his patient pain without discovering the *locale* of the foreign body. This has detracted very considerably from the value of x rays in surgical work. A method, therefore, which ensures the exact localising of the foreign body in both a vertical and a horizontal plane and the exact determination of its size will be of immense service. We hope shortly to bring to the notice of our readers an account of this method which has been carefully elaborated by Dr. W. S. Hedley and Mr. Mackenzie Davidson. For the present all we need say is that the method of measurement employed renders the x rays a really accurate means of locating the position and size of foreign bodies in the tissues. At a demonstration at which we were present the results were satisfactory and convincing both as to the practicability and utility of the method, while it relieves the patient of any unnecessary inconvenience and detention.

SURGICAL SYMPTOMS IN CONNEXION WITH FILARIA SANGUINIS.

AT a recent meeting of the Bombay Medical and Physical Society Surgeon-Lieutenant-Colonel W. K. Hatch called attention to the enlargement of various lymphatic glands and the varicose state of the lymphatics of the spermatic cord which are met with in cases of filaria sanguinis. A full description of the former of these conditions has hardly, he said, been given by any writers with the exception of Dr. Patrick Manson and the late Dr. Vandyke Carter. The gland usually affected are those in the groin, and next in order of frequency the axillary, then the iliac glands, and very rarely those of the neck. The glands have usually a soft, doughy feel and when small can be made almost to disappear, but when the pressure is removed they gradually resume their

former size. These glands are subject to periodical enlargement, becoming tense, hot, elastic, and often extremely painful; the patient at the same time suffers severely from fever, lasting for several days, during which he is quite incapacitated for work. The filaria sanguinis can generally be detected in the blood at night during the attacks, hence the difficulty of diagnosis (which may be considerable) arises from making an examination in the interval between the attacks. The glands have an open spongy structure with numerous large lymphatics in connexion with them on all sides; if they are opened while still in the body a large quantity of reddish fluid escapes. Such enlarged glands have been sometimes mistakenly attributed to femoral hernia, to pelvic inflammation, &c. They should generally be left alone; if they are removed the healing of the wound is usually tedious. In one case in which Surgeon-Lieutenant-Colonel Hatch was prevailed on to operate against his inclination all went well for a few days, but suddenly the temperature went up, the face became dusky and the extremities livid, the circulation in the radial arteries and then in the brachial ceased gradually, and the patient sank. A case of varicose lymphatics of the spermatic cord has been operated on in the Jamsetjee Jejeebhoy Hospital. This patient had no enlargement of the testicle, but in other cases both cords and both testicles were large, smooth, and elastic, and moderate hydrocele was present.

COFFINS ONE PENNY ONLY.

THE heart of the Funeral Reform Association must be glad, for never in its most exalted moments could it have imagined that a coffin would be supplied at the price of one penny; and yet we learn that the Contracts Committee of the Preston Union have accepted a tender for the supply of coffins at prices ranging from one penny to fourpence each. The coffins are to be of specified good quality. According to the *Yorkshire Post* the explanation of this bargain is that "in some instances the friends of deceased persons have club money to draw which enables them to purchase a superior class of coffin, the contractor thus recouping himself for the penny articles." We do not quite see the logic of this argument, but the fact remains that a coffin may be purchased for a penny. The sums wasted upon funerals—and by none more than by the very poor—are a perfect scandal, although we know that the expense is incurred out of a mistaken idea of showing reverence for the dead. This is a feeling all too rare nowadays and should be respected, but it would be much better to turn it into a more useful channel. If half the sums now squandered on horses, plumes, mutes, and other pagan vanities were handed over to the ecclesiastical authorities of the parish to be spent in relieving the poor and destitute, with a provision that the name of the deceased should be commemorated, reverence for the dead would be kept up, their memory would be kept green, and some, if only a small portion, of unhappiness would be relieved. The Preston guardians will, we hope, now that a coffin can be purchased for a penny, make the funeral of a pauper somewhat less of a perfunctory ceremony than it is at present and take some care to show that a body should not be huddled into the ground at the cheapest rate and in the most careless manner. Extravagance, as we have said above, is to be avoided, but decency and dignity should by all means be considered.

A MEDICAL VICE-CHANCELLOR AT CAMBRIDGE.

WITH the appointment of Dr. Alexander Hill as Vice-Chancellor of Cambridge University the medical profession has for the first time in history the satisfaction of seeing the highest executive office in one of the two great English universities filled by a medical man. John Caius, who, like Dr. Hill, was a student of St. Bartholomew's Hospital, ruled over the College, which he re-founded and endowed, from 1559 to 1573, but he did not fill the office of Vice-Chancellor. John Harvey was appointed Warden of Merton College, Oxford, in 1644, but lost his office six months later on the fall of Charles I. Of other medical men, if any, who have filled headships of colleges there is, we believe, no record, Dr. Alexander Hill's mastership of Downing alone excepted. Of late years medicine has made great advances at the universities, and we must look upon the election of Dr. Hill not only to the mastership of Downing but to the Vice-Chancellorship of the University as a proof of the increasing influence of our profession at Cambridge, and also as one of many recent indications that medicine is rapidly stepping into a position of equality with the sister professions of theology and law. Dr. Hill holds the office of Lecturer in Advanced Anatomy to the University. He was for some time Hunterian Professor of the Royal College of Surgeons of England. He is the author of many papers on the anatomy and physiology of the nervous system, the translator of Obersteiner's "Central Nervous Organs," and the author of the "Physiologist's Note-book" and other works. Last year he succeeded Sir William Broadbent as President of the Neurological Society, and it is as a neurologist that he is chiefly known to the profession. With the public his name is also familiar as the chairman of the National Home Reading Union, over which excellent institution he has presided since its foundation eight years ago. Recently Dr. and Mrs. Hill took their children for a voyage round the world, and we understand that the incidents of their travels as well as various observations upon the ethnology, natural history, geography, and the resources of the Queen's dominions will be published during this month by Messrs. Swan Sonnenschein and Co., under the title of "A Run Round the Empire; being the log of two young people who circumnavigated the globe, written out by their father."

WATER ANALYSIS AND TYPHOID FEVER.

THE value of both a chemical and bacteriological analysis of water with a view to pronouncing it fit or unfit for drinking purposes has often been impugned, and this fact has not a little to do with the refusal of some authorities to have the water-supply frequently and systematically examined. This may or may not have been the case at Maidstone, where, unfortunately, one of the severest epidemics of typhoid fever on record has broken out not very long after it was decided to reduce the number of analyses which had hitherto been made. We do not for a moment affirm that had the analyses been made more often the outbreak would have been avoided. Still, the periodic and frequent examination of a water-supply is, in our opinion, a step that should never be neglected, for although neither bacteriology nor chemistry can be depended upon to determine with certainty whether a water is actually injurious to health, yet both alike may afford an indication of risk and impurity. We could quote several instances where a water-supply has been traced with certainty as the source of typhoid fever, yet on chemical analysis the water showed a high standard of purity. And bacteriological examination is just as likely to be misleading as a chemical examination. Indeed, as a rule, where bacteriological examination succeeds in tracing impurity, so also does chemical analysis. The only safe and satisfactory way to control the purity of a water-supply is to have periodic bacteriological and chemical examinations made, and, above all, especially if the results are negative, to make from time to time a thorough investigation of the source of supply and to ascertain every conceivable possibility of contamination, whether occasional or enduring. It must not be forgotten that accidental pollution may

happen which would be sufficient to produce an epidemic of disease, and that the moment of pollution may occur sometime between the taking of the samples. In short, it is imperative that not only should a water-supply be examined frequently, both chemically and bacteriologically, but that every step should be taken, especially where the supply is dependent upon wells, to examine minutely the source of the water and ascertain whether there is any possibility of its contamination.

POST-MORTEM EXAMINATIONS AND HOSPITAL PATIENTS.

AT an inquest held upon Oct. 5th at the Lambeth coroner's court a question of great interest to hospital authorities was raised. The inquiry, held at the request of the father of the deceased, was upon the body of a boy aged sixteen years. Five years previously the boy had had his thorax opened and drained at the Westminster Hospital, presumably for an empyema, and the opening had never healed up. On Sept. 18th, 1897, the father brought him to St. Thomas's Hospital, where the boy was admitted. According to the father's evidence, he saw Dr. H. P. Hawkins and told him that he objected to any operation; the boy also objected, whereupon Dr. Hawkins said: "Then nothing shall be done to you, my boy." Witness than left for Brussels, and while there on Sept. 29th he received a telegram saying that the boy was dead. On arriving at the hospital he found that an operation had been performed and a post-mortem examination made. He had given his consent to neither. Dr. H. P. Hawkins, assistant physician to the hospital, said he first saw the boy, who was very ill, having a collection of matter in the right side of his chest, on Sept. 20th. He afterwards saw the father and explained to him that an operation enlarging the opening already present in the side would be necessary. At first the father objected, but upon matters being explained he gave his consent. Dr. Hawkins contradicted the father's statement that he had said "Then nothing shall be done to your boy." Dr. H. G. Turney said that the post-mortem examination was made in the ordinary routine way, and Mr. Sidney Phillips, the steward, said that an order was issued automatically on the occurrence of every death for a post-mortem examination to be made. Consent was never asked, but the friends of a patient were informed as soon as possible on the occurrence of a death, and he considered it tolerably well known that a post-mortem examination would be made. Mr. W. H. Battle said that the operation was performed by him on Sept. 23rd, and the boy died on the 29th from tuberculosis. The jury found that the boy had died from heart failure following tuberculosis, that the hospital authorities were quite justified in operating, and that the father had given his consent. They thought, however, that relatives and friends should be allowed an opportunity of objecting to a post-mortem examination. We quite agree with the verdict; and with regard to the rider, as a matter of fact, we believe consent is asked at most of the metropolitan hospitals. It is very rarely refused if the matter is stated plainly and temperately to the relatives, but the feeling against these examinations is in most cases the outcome of ignorance and, although easily set aside, should be respected and allowed for.

WE are informed that on Sept. 15th, in a case at the Evelina Hospital for Sick Children, Mr. A. H. Tubby successfully and immediately reduced the deformity arising from caries of the spine, and that on Wednesday, Sept. 29th, the same surgeon operated on a similar case with success. These are the first occasions in which this method of forcible reduction has been carried out in London, although Mr. Robert Jones and Mr. Tubby have previously employed it in Liverpool.

THREE courses of lectures and clinical demonstrations will be given at the National Hospital for the Paralysed and Epileptic in each year. During the present or winter course a clinical lecture or demonstration will be given weekly in the theatre on Tuesdays, at 3.30 P.M., by one of the members of the staff. There will be demonstrations on other days as occasion offers. All communications respecting clinical appointments, lectures, and hospital practice should be made by letter only, addressed to the secretary-director at the hospital.

AT the Hospital for Diseases of the Nervous System three courses of clinical demonstrations will be given in the session 1897-98 for medical practitioners and senior students. The courses are designed to cover the subject of neurology in a systematic manner. The first course will commence on Tuesday, Oct. 12th, at 4.30 P.M., and will be continued on consecutive Tuesdays at that hour until Dec. 14th. The fee for one course will be a guinea, and a composition fee of two guineas may be paid for the three courses. Cards of admission may be obtained from the honorary secretary, 60, Upper Berkeley-street, W.

SOME members of the Royal Commission on Tuberculosis, including Sir Herbert Maxwell, Bart., M.P. (chairman), Sir Richard Thorne Thorne, Mr. Cooke-Trench, and Mr. John Speir, have started on a visit to Glasgow, Edinburgh, and Belfast, to see the methods of dealing in the public slaughter-houses at the different places with animals or carcases affected with tuberculosis, and to obtain information on other points connected with their inquiry. On Monday next they hope to visit Dublin for a similar purpose, and possibly one or two English towns on their return.

MR. HUTCHINSON will resume the clinical conferences at the Museum, 211, Great Portland-street, which have been suspended during the vacation, on Wednesday next at 4 P.M. They will be continued every week at the same hour, and the attendance of all members of the profession (not ladies) is invited.

IT is stated by the *Times* correspondent that the Quebec College of Physicians and Surgeons has issued a decree prohibiting medical men from accepting positions as physicians of charitable or benefit societies under pain of withdrawal of the privilege to practise.

AT the opening meeting of the winter session of the North-West London Clinical Society, to be held at the North-West London Hospital on Oct. 20th at 8.30 P.M., the President, Sir William Broadbent, Bart., M.D. Lond., will deliver the annual address.

No reliable details can yet be given as to the numbers of the new students at the various schools, but we hear that as a whole the total is below the average, although certain schools are rejoicing over a probable increase.

DR. SYDNEY STEPHENSON'S report on the prevalence of ophthalmia in the metropolitan poor-law schools was issued on Oct. 2nd. We shall take an early opportunity of referring to it in detail.

UNIVERSITY OF CAMBRIDGE.—The new Vice-Chancellor, Alex. Hill, M.D. Cantab., Master of Downing College, was formally admitted to office on Oct. 1st. The retiring Vice-Chancellor in a valedictory address announced a gift of £2000 for the general purposes of the university. He hoped that this first response to the statement of needs recently issued by the Chancellor would be followed by many like benefactions.

Pharmacology and Therapeutics.

GEOSOTE.

GEOSOTE is the name given to a combination of valerianic acid with creosote which has been employed in practice by Dr. Rieck. It is an oily liquid, with a sweetish taste, but without the burning character of creosote, and when injected under the skin in doses of from fifteen to thirty grains the smarting sensation produced soon passes off. For children from two to eight years of age four to ten drops may be given in mucilage or in a spirituous solution. Adults can take it in capsules containing thirty grains, one, two or three capsules being a dose. It appears to be a decided tonic in debility and chlorosis and to be useful in intestinal catarrh and in infantile diarrhœa where calomel, castor oil, and tannin have failed. In the pulmonary catarrh of adults, as well as of children, it is particularly valuable, as of seventy-six cases of phthisis only thirteen are reported as not having derived benefit from it. Indeed, Dr. Rieck has never seen any other remedy productive of so much good. Similarly, it has been satisfactorily employed by the hypodermic method in tuberculous glands, joints, and bones.

CREOSOTE IN HABITUAL CONSTIPATION.

According to Dr. Vladimir de Holstein, of Paris, who writes in the *Semaine Médicale*, one of the best remedies for habitual constipation is to be found in creosote, at least if administered according to a certain plan which he describes. He was first led to employ this drug for constipation from observing its effects on the intestinal functions of a chlorotic young woman for whom he had prescribed it after ferruginous and arsenical preparations had been given for some time without having any appreciable effect on her general condition. Dr. de Holstein's belief was that chlorosis often depends on some auto-intoxication having its origin in the bowels, and he therefore thought that perhaps creosote, being capable of destroying noxious micro-organisms in the digestive canal, might lead to an improved condition of blood. The patient constantly suffered from the most obstinate constipation, which had been treated without very satisfactory results by means of abdominal massage and oil enemata. To Dr. de Holstein's surprise, after the creosote treatment was commenced a daily evacuation was obtained without any artificial assistance. Since then he has employed similar treatment in a large number of cases of habitual constipation and so far has not come upon a single one in which either the creosote was not well borne or in which it did not prove successful. Beech creosote is always used, and he does not approve of pills, perles, or solutions containing spirit, but always administers it in drops in a glass of wine and water, milk, or plain water twice a day after meals. In order to accustom the patient to the burning taste of the creosote it is best to commence with a single drop and gradually to increase this to seven or eight or even more if that should prove insufficient. The treatment should be persevered in for several months and is said to have no ill effects on the teeth or other organs. Of course there is no reason to suppose that creosote possesses purgative properties, its effect on constipation appearing to be due to its neutralising some intestinal toxin which in patients with chronic constipation paralyses the action of the digestive canal.

KOLANIN, THE STIMULATING PRINCIPLE OF THE KOLA NUT.

Dr. Knebel, working in the Pharmaceutical Institute of the University of Erlangen under the direction of Professor Hilger, has found that the active principle of the kola nut is not, as has been supposed, an alkaloid, but a glucoside, which he has isolated and had made into tabellæ containing three grains in each. These appear to exert a better and more stimulating effect than other preparations of the nut. Dr. Dornblüth, of Rostock, has recently published an account of his observations on their employment in practice, having first satisfied himself by experiments on his own person that he might safely prescribe this so-called kolanin. After a more than usually arduous and fatiguing time of seeing patients he found that a single tabella relieved the feeling of exhaustion in a few minutes in a way that caffein had never been able to do and, moreover, without leaving any unpleasant exciting effects as the latter drug generally did. With patients he found, too, that it relieved many who complained of exhaustion, and left no unpleasant after-effects in the way of lassitude. In the cardiac weakness of neurasthenics, where the pulse is small and fluttering and the patient feels very faint, kolanin generally produces an excellent effect. In two patients with organic heart disease complicated with kidney trouble, where digitalis had not proved as successful as might be desired, kolanin given in three-grain doses every half-hour soon caused a marked improvement. In migraine of a vaso-paralytic character it was also useful, as well as in headaches due to excitement, overwork, or alcohol.

HELOUAN, ITS CLIMATE, WATERS, AND RECENT IMPROVEMENTS.

BY W. PAGE MAY, M.D., B.SC., M.R.C.P. LOND.,
FELLOW OF UNIVERSITY COLLEGE, LONDON; FORMERLY MEDICAL REGISTRAR AND PATHOLOGIST TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

HELOUAN or, as it is sometimes called, Helouan-les-Bains is a small town situated on one of the slopes of the Mokattam Hills, in latitude 30° N., and is surrounded on all sides by the Arabian Desert. It is an artificial oasis sixteen miles due south of Cairo, 200 ft. above the Mediterranean, and 140 ft. above the eastern bank of the Nile, which is about three miles distant. Assouan lies 600 miles further south and Luxor about 450 miles. Helouan has a population of 7000, and covers about two-thirds of a square mile. It was planned and laid out under the direct auspices of the Egyptian Government. The late Khedive, H.H. Tewfik Pasha, built a large palace there and chose it as his favourite residence, an example quickly followed by many of the Egyptian princes and pashas.

Communication.—Trains run from Helouan to Cairo in from twenty-five to forty-five minutes, and there is a train each way on an average every hour. Cairo is five or six days from London by the overland route; it is twelve or fourteen days by the long sea route. There is a telephone between Helouan and Cairo.

Soil.—Helouan stands on a mixture of sand and gravel which is continuous with the surrounding desert. To the east gradually rise the Mokattam Hills, which consist largely of early tertiary nummulite limestone and pass without a break into the mountains and valleys of the Arabian Desert. The rounded summits of the hills in the vicinity of Helouan rise to a height of 1200 or 1500 ft. and alternate with broad plateaus or winding valleys. To the north and south are undulating slopes of the desert the surface of which consists of sand or gypseous saline conglomerate, offering unrivalled opportunities to the equestrian. A few miles to the north also are the remains of a sea beach through which the railway to Cairo has been cut. And within an hour's ride past occasional inscriptions, are the huge quarries of Turah and Massarah, from which the stone was taken for building many of the Pyramids. To the west of Helouan the desert slopes gradually down for two and a half or three miles to the narrow strip of cultivated land which fringes the Nile. On the other side of the river lies the town of Bedrashein. A large weekly market is held there, and it is one of the towns in which the primitive life of the Egyptian fellaheen can be well seen and studied.

Just beyond Bedrashein are the ruins of Memphis, founded more than 4000 years B.C. by Menes, the first historic king of Egypt, while an hour's further donkey ride brings the visitor to the step Pyramid and Sakkara with its beautiful and vivid remains of the Egyptian civilisation some 3000 and 4000 years B.C. The character of the situation of Helouan and of the view from it is sufficiently evident from the fact that it includes no fewer than twenty pyramids—namely, those at Gizeh, Abu Roash, Sakkara, and Dashur, the Nile and its valley, with cultivated land and palms, the desert, the Arabian hills, and Cairo in the distance.

The climate of Helouan.—The above brief account of the situation of Helouan will suggest the character of its climate. That which prevails in summer is of no importance, since Helouan as a winter resort is the special subject of this article. The season for Europeans may be said to last from the beginning of November to the middle (or end) of April; its termination partly depends on the question whether the visitor is in search of health or interest or of both.

The following account of the climate is based upon the results of my own observations made daily at 9 A.M. and 9 P.M. The instruments had been chosen with care, and I believe that the facts ascertained are thoroughly trustworthy. The barometer was of the Kew pattern, and the maximum and minimum thermometers, the wet and dry bulb instruments, the soil thermometers (4 ft. and 1 ft.), and those with black bulb in vacuo for solar radiation were all by Casella, and had been tested and approved at Kew Observatory. The rain gauge had a diameter of 5 in. The Robinson's Anemometer and Jordan's Sunshine Recorder were by Negretti and Zambra, and worked admirably. The self-recording thermometer and hair hygrometer were made by Richard Frères, of Paris, and the chart for each was changed every Monday at 9 A.M. The shade instruments were placed in a Stevenson's screen of the pattern approved by the Royal Meteorological Society—viz., double wooden roof, with double louvred sides, &c.—on the large flat roof of the hotel 40 ft. above the ground.

Air.—The air at Helouan is that from the desert, and usually described as quite free from germs and organic matter of all descriptions. It must in any case be remarkably low in those constituents. (Some observations being made on this point I hope to bring forward on another occasion.) From the fact that the desert surrounds Helouan the air must be remarkably pure, dry, bracing, and invigorating; and as there is no doubt that one of the chief factors in the beneficial influence of a climate is the aseptic condition of its air, the importance of the practically sterile condition of the desert air at Helouan can scarcely be sufficiently emphasised. Anyone who has experienced the effect of breathing the desert air on a fresh morning will vividly remember what a light-hearted, buoyant feeling it produces, combined with a desire for physical exercise.

Sunshine (see Table I.).—The influence of sunshine in promoting natural processes is as important in the case of animals as in that of plants. Its powerful effect in destroying bacteria is well known but not sufficiently utilised. To take one example only, Koch has shown that whereas in diffused daylight tubercle bacilli live for five or seven days direct sunlight kills them in at most a few hours, and not infrequently in a few minutes.

TABLE I.—*Showing the Amount of Sunshine at Helouan.*

—	Actual sunshine.	Daily sunshine, average.	Morning sunshine, average.	Afternoon sunshine, average.	Greatest daily amount.	Smallest daily amount.	Solar radiation black bulb in vacuo, average.
1896.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	
Nov.	238 25	8 37	4 28	4 9	10 0	0 10	147 8
Dec.	229 25	7 24	3 52	3 32	9 20	0 20	138 3
1897.							
Jan.	213 5	6 53	3 35	3 18	9 20	1 5	137 1
Feb.	229 30	8 11	4 17	3 54	10 25	2 5	143·9
March ...	291 12	9 24	4 58	4 26	11 45	1 50	151·6
Totals	1221 37	7 57	4 14	3 51	—	—	143·6

The average sunshine at Helouan during the last winter (November to March) was nearly eight hours a day, and 1221 hours 37 minutes of sunshine were recorded for the five months, of which the greatest amount (291 hours) in one month occurred in March and the least in January (213 hours). It is interesting to note that on an average for the winter there were twenty-three minutes more sunshine registered daily before midday than after, whereas later it will be seen that there was 75 per cent. more wind through the day than through the night. Perhaps the most striking evidence of the character of the climate was the fact that not a single day occurred without some sunshine. Moreover, the atmosphere is peculiarly transparent to the sun's rays, both luminous and chemical, as measurement of the actinic effects of the light demonstrates in a very precise way. The average maximum solar radiation as registered by a thermometer with its blackened bulb in vacuo was 143°. The heat in the sun was usually most agreeable, and many people preferred to wear an ordinary straw hat or cloth cap without any other protection, and were able to do so without inconvenience.

Temperature (see Table II.).—It will be seen from the tables that the temperature during the winter months at Helouan is well suited for invalids. It is true that there is a distinct difference between the mean maxima and minima for each twenty-four hours, but the difference (21°) is not a disadvantage and is pleasant rather than otherwise. This daily range of temperature, however, is less at Helouan and Cairo than at Luxor or Assouan, and is decidedly less than in the Alps and

TABLE II.—*Showing the Temperature at Helouan in degrees Fahrenheit.*

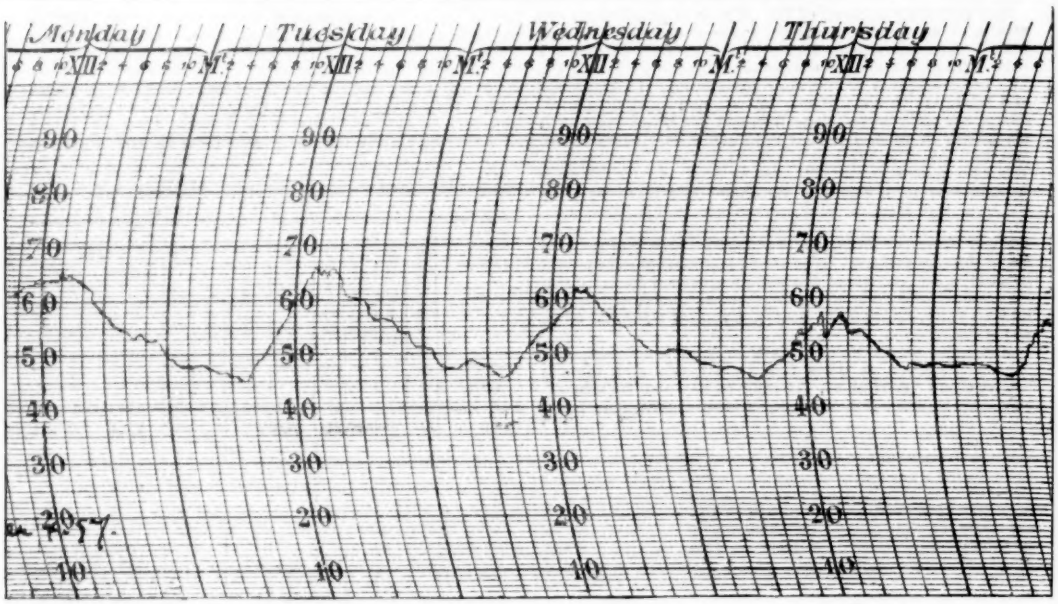
—	Maxima, mean.	Minima, mean.	Mean of maxima and minima.	Daily range.	Extreme highest.	Extreme lowest.	9 A.M., mean.	9 P.M., mean.	Soil temperature (4 feet). 9 A.M.	Soil temperature (4 feet). 9 P.M.	Soil temperature (4 feet). Difference.
1896.											
Nov. ...	79·1	58·7	68·9	20·4	88 4	51·0	67·0	67·6	78 0	78·6	0·6
Dec. ...	73 0	51·0	62·0	22·0	86·4	43·0	60·0	63·0	71·93	71·94	0 01
1897.											
Jan. ...	67·3	47·5	57·4	19 8	78·0	43 4	56·2	57 0	69 77	69 8	0 03
Feb. ...	66·9	47·1	57 0	19 8	73·0	43 4	56·9	56·9	69 97	70 01	0 04
March ...	74·5	50 2	62·3	24 3	88·8	45 0	62 7	61·9	70·95	70·98	0·03
	72 1	50·9	61 5	21·2			60 5	61·3			
April (to 24th only)...	82·5	55 3	68·9	27·2	97 2	51·0	71·8	69·1	73·5	73·6	0·1

in Colorado and many well-known health resorts. Also, the comparative equability of temperature at Helouan is still more marked if one takes the range of extreme temperatures—Davos giving 10·5° more and Colorado Spring 26·3° more variation as the average for each month (see Table II.). Taking the invalid's day as lasting from 9 A.M. to 9 P.M., it will be seen that he can live out of doors in pure desert air from the beginning of November to the end of March in an average temperature of from 60° F. at 9 A.M., increasing steadily to 72° at about 3 P.M., and returning slowly to a temperature of 61° at 9 P.M. At night the average minimum for the same period is 50·9° F., and therefore, sleeping with open window, there would be no risk of catching cold. Indeed, owing to the retention of heat by the walls of the room the lowest temperature in the room itself would be about 5° or 6° higher.

So much is heard of a sudden fall in the temperature at sunset that a passing remark is necessary. At Helouan, as in desert climates generally, no sudden drop in the temperature occurs as is so frequent elsewhere; and that this is so a glance at the actual temperature chart for the four days, Jan. 6th to 9th inclusive, 1897, will show. The temperature there is self recorded, and given accurately for every moment in the week, yet there is no appreciable drop at the time of sunset, but the temperature gradually falls from the daily maximum to the minimum. Indeed, not only is this true of Helouan, but at a discussion of the Royal Meteorological Society on Dec. 16th, 1896, Dr. Marcet and Dr. Theodore Williams stated that they "experienced no appreciable chill at sunset" even at Luxor or in Egypt generally.

It is important to notice that, as is well known, the temperature of drained land is more equable than that of undrained,[1] and at Helouan the 9 P.M. temperature of the soil four feet in depth only showed an increase of less than one-fifth of a degree over the 9 A.M. temperature. In December, January, and February the difference was even less (see Table II.) and scarcely appreciable. During the winter this four-foot temperature scarcely varied from hour to hour or day to day, and from the beginning of December, when it stood at 75°, it descended gradually until it reached 68·8° at the end of January, and rose gradually to 71·8° at the end of March. At no time did it exceed these extremes. It will be noticed that the temperature of the soil four feet below the surface is above the average in other places, and this peculiarity is without doubt due to the conditions which cause, or are associated with, the thermal springs.

[1] Buchan, Encyclopædia Britannica, vol. vi., 1877; and Climate in the Treatment of Disease, by Weber and Foster, in Allbutt's System of Medicine, vol. i., p. 286.



Temperature chart showing gradual fall from about 3 P.M. to 7 A.M., but no sudden drop.

Humidity (see Table III.).—The mean of the 9 A.M. temperature for the five months Nov. to March was 60·5° and the mean of the evaporation temperature (wet bulb thermometer) was 53·3°, whereas the mean of the 9 P.M. temperature for the same period was 61·2° and of the wet bulb thermometer was 53·6°. These results were obtained by eye observations of the standard instruments at the hours named, and give by calculation with Glaisher's tables a relative humidity at 9 A.M. of 60 per cent. and 9 P.M. of 59 per cent. The relative humidity as indicated by a recording hygrometer has daily maxima and minima for the same period of 84 and 30 per cent. respectively. Thus, again, taking the invalid's day as from 9 A.M. to 9 P.M. a visitor at Helouan could breathe desert air from November to April inclusive, containing on the average at that period of the twenty-four hours only between 30 and 60 per cent. of moisture (relative humidity).

TABLE III.—*Showing Humidity at Helouan.*

—	Wet bulb 9 A.M. mean.	Dry bulb 9 A.M. mean.	Relative humidity 9 A.M. calculated by Glaisher's tables.	Wet bulb 9 P.M. mean.	Dry bulb 9 P.M. mean.	Relative humidity 9 P.M. calculated by Glaisher's tables.	Relative humidity by recording hygrometer. maximum mean	Relative humidity by recording hygrometer. minimum mean
1896.	Deg.	Deg.		Deg.	Deg.			
Nov.	59·1	+ 7·8	60	58·0	+ 9·5	54	83	26
Dec.	54·4	+ 5·6	68	55·6	+ 7·3	60	86	35
1897.								
Jan.	49·3	+ 6·9	61	50·5	+ 6·5	62	86	35
Feb.	49·7	+ 7·2	59	50·2	+ 6·7	61	86	29
March ...	54·2	+ 8·4	56	53·8	+ 7·1	60	82	24
	53·3	+ 7·2	60	53·6	+ 7·4	59	84	30
April (to 24th) only	59·3	+ 12·5	45	57·1	+ 12·0	46	78	15

Wind (see Table IV.).—The mean numbers given by the Robinson anemometer were for the five months, November to March, 20·75 between 9 P.M. through the night to 9 A.M., and 36·45 for the mean twelve hours 9 A.M. to 9 P.M. That is, there was an increase of about 75 per cent. of wind during the day. It will be seen on reference to the table that February was the most windy month, March rather less windy, and November least.

TABLE IV.—*Wind and Rain at Helouan.*

—	Wind measured by Robinson anemometer read at 9 A.M. mean.	Wind measured by Robinson anemometer read at 9 P.M. mean.	Wind measured by Robinson anemometer read at Total mean.	Total rainfall in inches.*
1896. November.	19·9	33·0	52·9	0
December.	21·1	35·1	56·2	$\frac{436}{1000}$ †
1897. January.	19·2	35·3	54·5	$\frac{1}{50}$
February.	22·9	41·7	64·6	$\frac{1}{200}$
March.	20·6	37·1	57·7	$\frac{1·2}{100}$

* Less than half an inch during the five months.
† In one evening, Dec. 2nd.

Dust.—So much prominence has been given by some writers to the dust in Egypt that a few remarks are necessary. It may be divided into two chief kinds, that arising from the dried cultivated land or towns and that from the desert. The latter has a much higher specific gravity, and is in larger granules than the former. If one gives a kick into the desert soil so as to send up a small cloud, dust particles will be seen to remain in the air for a few seconds only and rapidly settle on the earth again; but if one performs the same little experiment with the dried soil of the cultivated land the particles of dust remain for several seconds, or even minutes, floating visibly in the air. Hence in those parts of Egypt (viz., by the river and in the cultivated land chiefly) where dried agricultural soil predominates dust in the air is much more common than in the desert, and from the golf links at Helouan clouds of dust can frequently be seen driving along by the river, while the air at Helouan remains perfectly clear. As Professor Flinders Petrie has pointed out, the occasional strong winds raising dust almost invariably originate to the west of the Nile, and expend a great deal of their force in crossing to the eastern bank. Hence dust is less abundant on the eastern bank.

Possibly one reason for the erroneous idea prevalent as to the amount of dust in Egypt is that the windiest season—

viz., the latter half of February and beginning of March—is precisely the time of year at which most pleasure-seekers visit Cairo, and after a flying visit they depart with the idea that the conditions they have seen locally for a few days must be prevalent throughout the country for the whole season.

Rain (see Table IV.).—Less than half an inch of rain fell in the five months (November, 1896, to March, 1897). The exact amount was $\frac{47}{100}$ in., and of this $\frac{42}{100}$ of an inch fell in one evening (Dec. 2nd). Therefore, as far as invalids are concerned, the winter was practically rainless.

Thermal waters.—The climate is not the only physical advantage which Helouan offers to those in search of health. It also possesses valuable thermal springs[2] giving in abundance three kinds of waters—viz., sulphur waters, saline waters, and chalybeate waters. There are several springs, but they may be roughly divided into three groups—a group near the present baths, consisting chiefly of sulphur water; a group in the desert, about a mile to the north of Helouan, consisting simply of saline water; and a few springs to the west of the Khedivial Palace containing chalybeate water. The thermal mineral waters of all kinds are in abundance. Three of the sulphur springs near the baths are reserved exclusively for use at the bath establishment; one of the springs gives twelve gallons of sulphur-saline water a minute, and is running to waste day and night; the other two give similar quantities and are in the bath establishment itself. The temperature of the water in the spring is 90° F. Through the kindness of Messrs. Suares I was enabled to obtain an analysis of the water from Professor Attfield, F.R.S., and his analysis (given below) coincides with that of Professor Gastinel Pasha, made several years ago.

TABLE V.—*Analysis of the Sulphur Water of Helouan-les-Bains by Professor J. Attfield, F.R.S. (Oct. 30th, 1896).*

Dissolved solids.	Grammes per litre.	Grains per gallon.
Potassium chloride	0·2923	20·4610
Sodium chloride	5·0690	354·8300
Calcium sulphate	0·0694	4·8580
Calcium carbonate	0·8250	57·7500
Magnesium sulphate	0·5069	35·4830
Iron and alumina	0·0160	1·1200
Silica	0·0290	2·0300
Sulphuretted hydrogen	0·0918	6·4260
	6·8994	482·9580

The above weight of sulphuretted hydrogen gas corresponds to rather more than sixty cubic centimetres in one litre, or more than two cubic inches in one imperial pint. The sulphur water of Helouan-les-Bains is therefore practically identical in strength as regards sulphur with the celebrated Montpellier sulphur spring of Harrogate.

Analytical data.—Grains per gallon: potassium, 10·7100; sodium, 139·5100; calcium, 24·5280; magnesium, 6·9300; iron and alumina, 1·1200; silica (SiO_2), 2·0300; sulphuric radical (SO_4), 31·9830; chlorine, 225·0710; carbonic radical (CO_3), 34·6500; and sulphuretted hydrogen (H_2S), 6·4260. Total dissolved substances in grains per gallon—that is, parts per 70,000 parts—482·9580.

TABLE VI.—*Analysis of the Saline Carbonated Iron Water of Helouan-les-Bains, by Professor Attfield, F.R.S. (Oct. 30th, 1896).*

Dissolved solids.	Grammes per litre.	Grains per gallon.
Potassium chloride	0·2362	20·0340
Sodium chloride	4·7050	329·3503
Calcium sulphate	0·7340	51·3800
Calcium carbonate	0·5157	36·0990
Magnesium sulphate	0·3613	25·2910
Iron and alumina	0·0150	1·0500
Silica	0·0350	2·4500
Total dissolved solids	6·6522	465·6540

[2] The Advantages of Dry Desert Air and the Application of Mineral Waters in Gout, Rheumatism and Early Phthisis.—Dr. Hinsley Walker, THE LANCET, October 7th, 1893.

Analytical data.—Grains per gallon: potassium, 10·4860; sodium, 129·500; calcium, 29·5400; magnesium, 5·2920; iron and alumina, 1·0500; silica (SiO_2), 2·4500; sulphuric radical (SO_4), 56·2800; chlorine, 209·3980; carbonic radical (CO_3), 21·6580. Total dissolved solids, in grains per gallon, 465·6540.

There is also a simple saline water containing 4·9690 grammes per litre, or 347·8300 grains per gallon of similar salts. In addition to this there are several springs yielding water in abundance, but not yet carefully analysed.

Baths.—The bath establishment in present use is the property of the Egyptian Government, who last summer granted a concession of the same for a term of forty-five years to Messrs. Suares on condition that certain stipulated improvements be made. On taking over the old bath establishment it was found that immediate improvements and alterations were necessary, and these were carried out with due dispatch. New pipes throughout and heating apparatus (boilers and thermas) were set up. A tower was built supporting two large reservoirs thirty-five feet high, so as to supply hot sulphur water and cold sulphur water at a sufficient pressure for the various douches. An electric bath was fitted and also a large room constructed for the inhalation of sulphur vapour, as at Bath, Marlioz, &c. (so-called dry inhalation). Also sulphur inhalation steam sprays were installed for use in throat complaints, &c. Hence at the present moment immersion baths, douches of all kinds, needle baths, electric baths, hot air baths, inhalations, and pulverisations can be administered, and the so-called Aix- (massage) douche is given by skilled European attendants. It has, however, been decided to erect an entirely new bath establishment to supplement the old one. The plans of the new bath establishment have been drawn up on the basis of the most modern balneological and hygienic ideas, and have been (according to the terms of the concession) submitted to the enlightened Public Works Department of the Egyptian Government under Sir J. E. Garstin, K.C.M.G., and approved. H.H. the Khedive also, after a careful examination of the plans, expressed his entire approval of them. The new baths are already in process of construction and probably will be completed during the present winter. They will contain a spacious hall with entirely separate entrances and accommodation for ladies and gentlemen, waiting-rooms, cooling-rooms, twenty-six simple immersion baths, eight large combination bathrooms, each containing an immersion, a needle bath, douches and sprays of all kinds, whilst opening into each combination-room directly will be three separate spacious dressing-rooms, so that the bathers need never be hurried after their bath. Also, accommodation for hot air and steam (local and general), electric baths, inhalations and pulverisations, and all the most modern and necessary appliances will be provided. Adjoining the bath establishment is a large swimming bath of sulphur water, about 70 yards long and 25 broad, through which fresh sulphur-saline water is flowing day and night. It is divided into two portions, one being reserved for ladies and one for gentlemen.

Hence at present Helouan offers during the winter months many exceptional advantages to those in search of health or rest and change. The two chief factors of course are the climate (with the various influences included under that term) and the thermal waters, but to them should be added the powerful influence exerted on the body through the mind by the unfamiliar surroundings and the unique interest of Eastern life and the remains of Egypt's former greatness. The climate, as pointed out above, is a desert climate, and therefore dry and invigorating, and during the winter months almost ideal from the point of view of the seeker after health.[3]

INDICATIONS.

It is evident that by residence in such a warm, dry, equable climate, with air unusually free from dust and germs, with abundance of sunshine and practical immunity from rain, mist, or snow, with healthy mental occupation and surrounded by the resources of civilisation, sufferers from early chest trouble, enlarged glands, scrofula, renal disease, and albuminuria are likely to derive important benefit. Such conditions will obviously be very efficacious also to patients convalescent from severe illness and to those who are anæmic and debilitated or in dubious health. Moreover, such a decided change as Helouan offers in physical and mental surroundings is of the greatest help in cases of functional diseases of the nervous system, especially if

[3] Egypt as a Health Resort, by Dr. Sandwith.

previously associated with overwork or mental strain. The thermal waters (sulphur, saline, and chalybeate), as pointed out above, may be used either internally or externally or combined. Judiciously employed they certainly exert an eliminative action and are of distinct benefit in cases of gout, lithæmia, and allied conditions. They are useful also in cases of bronchial, laryngeal, and pharyngeal catarrhs, stasis of the portal system, and abdominal plethora, whilst sufferers from dyspepsia, engorgement of the liver and pelvic organs are often indirectly benefited, especially if their troubles are associated with a gouty or rheumatic diathesis. Patients with rheumatoid arthritis distinctly improve, and, as Dr. Bannatyne states, Egypt is *par excellence* the place for sufferers from that disease to winter in. Conditions such as sciatica, rheumatism, stiff joints, or arthritis, whether affecting one joint or more widely diffused, undergo most marked improvement at Helouan, and in these cases it is difficult to apportion the amount of advantage derived from the waters and the peculiar warm, dry desert air. Also, cases of chronic skin disease and special cases of debility are frequently much improved or cured by the use of the waters.

To sum up, Helouan is unique in Egypt in three important particulars and in what follows therefrom—viz., in being surrounded on all sides by the desert, in being not on the level of the Nile, but 140 feet above it, and in the possession of thermal, sulphur, and muriated saline waters; moreover, so far as I know, no other resort within several weeks' journey of London possesses a combination of thermal sulphur waters, &c., and a warm, dry climate during the winter months.

In conclusion, I can corroborate the testimony of Dr. Fenyes, who has been for some years in practice at Helouan, and who has not seen a single case of typhoid fever, diphtheria, scarlet fever, dengue, malaria, or so-called specific disease, which had originated in Helouan.

OTHER RESIDENTIAL PLACES IN EGYPT COMPARED WITH HELOUAN.

Assouan.—This town, which is 600 miles further south and 35 miles from the tropics, is situated on the Nile bank. It has a mean temperature (from December to March) of 8·4 degrees warmer than Helouan,[4] but is much less equable, the mean daily range of temperature being 6·2 degrees more; the range of extreme temperatures for the four months is also greater, being in the mean 50·4°, as against 40·5°.[5] As Assouan is warmer the relative humidity is less; the mean is given by Dr. Canney as 40·5°, against 54·2° at Helouan.[6] The mean absolute humidity, however, is only slightly less at Assouan—viz., 28° at Assouan and 30° at Helouan[7] (calculated as grains of aqueous vapour per 10 cubic feet of air). The results for the two relatively drier months, November and April, at Helouan are not given. It is interesting to note that the absolute humidity at Assouan in February was the same (28°) as at Helouan in January, and was the same (29°) at Assouan in March, as at Helouan in February. The late Dr. Jalland worked an anemometer which I placed at Assouan, and the results he sent me when compared with those obtained by an identical method at Helouan confirm the general idea that there is distinctly more wind at Assouan; also, there is more sunshine. The season at Assouan is shorter—viz., from the beginning of December to about the middle of March. The hotel, with accommodation for seventy people, is quite comfortable and has a dependance in the shape of a disused steamer.

Luxor.—This place, which is 450 miles south of Helouan and situated on the Nile bank in cultivated land, has more sunshine than Helouan, and in December to March is 3·6° warmer in the mean, but is much less equable, having a mean daily range of temperature of 6·2° more. The range of extreme temperature is also greater in the mean, being 49·6° as against 43·5°.

The relative humidity is higher—viz., 56·9, as against 54·2, and the absolute humidity is greater—viz., 31 (grains per 10 cubic feet) at Luxor, as against 30 at Helouan. There is less wind than at Assouan or Helouan. The chief hotel is comfortable, but stands in a luxuriant garden and is largely surrounded by the native village.

Mena House.—This is situated nine miles by road from Cairo, just above the level of the high Nile and 100 yards from the cultivated land. The temperature is in all respects much the same as at Helouan, and there is rarely a difference of 1°F. The moisture in the air is, however, distinctly greater both relatively and absolutely. Relative humidity (December to March) had a mean of 68·9 and absolute humidity gives 35 (grains of aqueous vapour in 10 cubic feet of air) as against 30 at Helouan. It is slightly more windy than at Helouan.

Cairo.—Cairo is situated on the level of the Nile, and has a population of about half a million people. The temperature is much the same as at Helouan. Humidity, both absolute and relative, is greater than at Mena, and still more so, therefore, than at Helouan. Owing to the changes produced in the soil and atmosphere by the High Nile it is very distinctly less healthy at the beginning of the winter than later. Its attractions are chiefly social. As an Eastern town with its commingling of Eastern and cosmopolitan life, each moment unfolding the scenes of the Arabian nights, with its mosques, its citadel, its absolutely unique museums, its attractions innumerable, its official and military elements, to say nothing of polo, races, cricket, golf, tennis, and military tournaments, few places can compare with it in its season. For those requiring such attractions or suffering merely from over-worked nervous systems or such disorders as neurasthenia it can be strongly recommended.

Accommodation, &c.—In Helouan there are two chief hotels, boarding-houses, and many villas on hire. The Helouan Hotel was built five years ago. The rooms are unusually lofty, large, and well-ventilated, and the hotel is comfortably furnished. It has electric light in every room, a large, well-appointed dark room for photographers, English and French billiards, and an excellent lending library, with books in English, French, and German. The cuisine is at least equal to that of the best hotels in Cairo. The sanitation is beyond reproach. Pension and room from 50 piastres—i.e., just over 10*s.* a day. The Grand Hotel des Bains adjoins the bathing establishment, and was entirely renovated last year. It accommodates about fifty visitors, and is well appointed in every way. Its sanitation, new throughout, has been approved by the Sanitary Department of the Egyptian Government under Dr. Rogers Pasha. Pension and room from 32 piastres—i.e., about 6*s.* 6*d.* a day.

The water-supply is constant and excellent. The water is taken from the Nile about eighteen miles above Cairo and pumped up to the town reservoir. For drinking and bedroom purposes in the two hotels mentioned it is filtered through Pasteur filters and is always in abundance.

At Helouan there are now good golf links in the desert five minutes' walk from the Helouan Hotel, and a golf club house is being built. Asphalt and cement lawn tennis courts, croquet, bowls, &c., horses, camels, or donkeys can always be obtained (or, if preferred, hired from Cairo and stabled in Helouan). Sand carts for driving into the desert, &c., can be hired from the hotels. Helouan forms a very convenient starting point for visiting the Pyramids and tombs of Sakkara, Dashur, &c., and the expeditions into the desert are interesting at first, later fascinating, and always health-giving. Cairo with its unique attractions and environs can be reached in twenty-five or at most forty minutes, and, as has been already stated, there is a train each way about every hour.

By the river there is the usual shooting obtainable in Egypt—viz., quail, snipe, and wild fowl, whilst the fauna of the desert though scarce fully repay the chase. The river, about three miles distant, can be reached by bicycling or driving or in the special trolley which runs over an old rail. And on the river the hotel steam launch can be hired at 30*s* a day, or 20*s* the half-day. Sailing boats are also to be had. An Egyptian military band plays every Sunday afternoon and evening at Helouan, and not infrequently (mostly on Thursdays) an English military band plays in the quadrangle of the Helouan Hotel.

At Helouan there are three posts a day, five mails a week from England (transit from five to seven days), and telegraphic and telephonic communications. The latter with all parts of Cairo is constantly available.

It may be interesting to compare the following meteorological observations with those at Helouan. Only the averages are shown, and there are no sunshine records except

[4] Dr. Leigh Canney (Quarterly Journal of the Royal Meteorological Society, April, 1897, p. 192) placed a self recording thermometer and hygrometer in a screen at each of the following places—viz., at Assouan (worked by Dr. Longmore and Dr. Jalland), at Luxor (worked by himself), at Mena (worked by Dr. Bentley and Mr. Hichens), and at Helouan (worked by the electrician, Monsieur Douat). His temperature and moisture results thus obtained are quite the best comparative meteorological work yet done on the above places.

[5] Ibid., p. 195. [6] Ibid., p. 179. [7] Ibid., p. 186.

for Falmouth. The figures were obtained from the Royal Meteorological Society by the kindness of Mr. Marriott.

TABLE VII.—*Showing Meteorological Observations at sundry Health Resorts for the Five Months from November, 1896, to March, 1897, inclusive.*

—	Temperature (deg. F.).				Relative humidity.	Rain.		Sunshine.
	Mean maximum.	Mean minimum.	Extreme maximum.	Extreme minimum.		Amount.	No. of days.	
Falmouth	45·2	40 3	53·2	32·0	85·0	5·18	20·8	78·9
Nice	54·8	41·7	64·7	32·0	71·4	4·23	7·4	—
Algiers	64·8	51·7	79 5	43·8	—	4·06	11	—
Funchal	66·0	51·4	70·8	46·4	70·0	4·49	9	—
Colorado Springs	—	—	63·6	1·4	—	0·34	—	—
Denver	46·2	21·4	67 2	1·6	49·0	0·54	5·2	—

Welbeck-street, W.

THE VACANCY IN THE GENERAL MEDICAL COUNCIL.

MR. VICTOR HORSLEY'S CANDIDATURE.

MR. VICTOR HORSLEY had a crowded meeting at the rooms of the Medical Society of London, 11, Chandos-street, on Friday afternoon, Oct. 1st, to hear his views on medical reform.

Mr. STAMFORD FELCE, in introducing Mr. Horsley to the meeting, said it was a pleasure to support Mr. Horsley in anything that he did because he always did it so zealously and painstakingly. The work that Mr. Horsley had done already for the profession in connexion with the Medical Defence Union would alone fit him for the larger sphere of usefulness he now sought to fill. Sir Walter Foster had relinquished his post on the General Medical Council and he had shown no cause in his address why he should now have altered his mind.

Mr. VICTOR HORSLEY expressed his regret that he had been unable to arrange the meeting so that a report of it could appear in the medical press of last week. He was before them to-day wishing to enter the General Medical Council for a very specific purpose. His experience in the work of the Medical Defence Union had shown him clearly that unless the work of medical defence had some sort of representation on the General Medical Council all those evils which pressed most heavily at the present time on the profession would remain unrelieved as they had done during the last decade. As he had already explained in his address he had much experience in the work of medical defence, and if he was returned as a Direct Representative to the General Medical Council he would exercise that knowledge and would at the same time be ready to receive suggestions and help from his former colleagues. Among the reforms which seemed to him most urgent was undoubtedly the reform of the constitution of the Council. This came first, although it seemed to fall in importance behind other questions which dealt more immediately with the actual lives of medical men. Yet it would be clear to everyone that unless the great principle of political representation was given more scope in the constitution of the Council they could not hope for any rapid advance in practical reforms. Mr. Horsley then referred to the over representation of the universities and corporations as compared with the representation of the profession directly, and laid stress on the fact that this question, one which concerned the interests of the general practitioner as opposed to those of the consultant, could only be solved by making direct representation also to some extent geographical representation. He would strive to make representation topical, representative of divisions of the country, in order that the candidate for a seat on the Council might have full advantage of his local reputation. With regard to the reform of the by-laws of the General Medical Council Mr. Horsley claimed that the Council had power under the Privy Council to draw up by-laws for the conduct of its own business. Last year he had ventured to draw attention at the meeting of the British Medical Association at Carlisle to the work of the penal committee of the Council, and especially to the really extraordinary by-laws under which that committee was acting, because he considered that their by-laws conferred an exceedingly dangerous power upon the President and the legal adviser of the Council. The justice of his contention had since been acknowledged by an alteration in the by-laws relating to the penal procedure. Mr. Horsley then went on to say that though grateful for the kind way in which his candidature had been spoken of in THE LANCET he wished at this point to refer to one error which had slipped into the enumeration of what were termed by that paper his virtues. THE LANCET said that he had made unwarrantable attacks upon the President of the General Medical Council. What he really did was, as he had always said, to show that the by-laws conferred certain powers on the President of the Council which might have evil effects. Without giving him the slightest opportunity of demonstrating the correctness of his contention the Council had condemned his action. He then published a letter in the press challenging comment in a public manner, but received no reply. Mr. Horsley then quoted from the minutes of Council certain resolutions and amendments which he held to justify his statement that the by-laws of the Council at that time were in a very dangerous condition. With reference to the past work of the Direct Representatives Mr. Horsley said that to the question, "Who among the Direct Representatives has worked most for us?" the answer was simple and certain. It was Dr. Glover, and Mr. Horsley invited those who had seen other statements made to peruse the official Minutes of the Council. They would then see that the man who had brought forward and initiated most movements in favour of reform in the Council was Dr. Glover, to whose name he would now add that of Dr. Bruce.

Referring to his advocacy of a one-portal system he had heard it stated that there seemed to be very little feeling on the subject in the profession, but he had had letters sent to him from all parts of the country drawing attention to the inequality under which men gained access to the profession, and complaining of the absence of a uniform degree. He had never been able to see the objection to the granting of such a degree. The Act of 1886 was designed to import such uniformity into our system by establishing the triple qualification of medicine, surgery, and midwifery. An attendance at a meeting of the Council would show that the representatives of the corporate bodies represented the bodies who sent them rather than the union of the portals of the profession. Referring to the question of medical aid associations Mr. Horsley said that if he were asked his views in the Council on this point he would repeat what he had stated publicly for several years, that it was a question which could only be decided by the Council itself, and from an ethical point of view under the clause which gave the Council power to deal with a practitioner whose conduct was "infamous in a professional respect." There was no doubt whatever that if a medical practitioner was brought before the Council on the charge of having employed touts or canvassers he would be struck off the register, or at any rate threatened if he did not give up the practice.

Mr. Horsley then corrected certain mis-statements that had been made by Mr. Colin Campbell and in the press concerning a statement attributed to him that £400 a year was sufficient to support a medical man, and concluded by reading to the meeting the brief statement which follows of his position with regard to the question of the registration of midwives.

As I find that considerable misconception and confusion prevails concerning the so-called "Midwives question" I beg to lay before you the following facts:—

1. Persons called midwives are at the present time and in considerable number carrying on midwifery nursing and irregular midwifery practice.

2. In recent years, but especially since 1889, when Sir Walter Foster brought forward and carried in the General Medical Council a motion urging the Government to construct and pass a law for the registration of midwives, a popular agitation had been carried on to effect this and to confer upon them what is practically a professional title and status.

3. There is also a widespread and obviously just feeling that the calamities which are caused at present by ignorant midwives cannot be allowed to continue, and the registration of the title midwife or midwifery nurse has been erroneously supposed by the General Medical Council to safeguard the interests of the public.

4. To procure safety for the public it is clear that the so-called midwives must be taught midwifery nursing, and that any person who follows the calling of a midwifery nurse without having had such teaching must be punished by statute.

5. No legislative guarantee of this kind, however, is possible unless

the names of properly taught midwifery nurses are placed on a list or register.

6. To meet the requirements of the public as laid down in the report of the Select Committee of the House of Commons, 1893, it is evident that the Privy Council will at no very distant date introduce a Bill which, to judge from the two (Lord Balfour's and Mr. Egerton's) already sent to the General Medical Council for consideration and report "as soon as possible" (*vide* Minutes G.M.C., 1897), will probably contain no safeguard either to the medical profession or the public.

7. The case of the medical profession has been gravely prejudiced by the practical adoption by a committee of the General Medical Council (of which Sir Walter Foster was a member), and subsequently by the Council, of the former of these Bills, and by its amendment in various unimportant particulars without provision of a single safeguard against the establishment and quasi-legislation of a body of unqualified practitioners in midwifery, such as the existing midwives.

8. The General Medical Council has now appointed a committee to consider Mr. Egerton's Bill; the question is therefore practically re-opened.

9. The Parliamentary Bills Committee of the British Medical Association, through a sub-committee of which I was chairman, has prepared a Bill for the teaching and regulation of obstetric nurses, which is now before the Council of the Association for consideration.

10. The point of immediate importance to the profession in this question at the present time is the strict preservation of the triple qualification in Medicine, Surgery, and Midwifery alone possessed by registered medical practitioners.

11. There are two methods of securing this, of which the first is the proposition by the Lancashire and Cheshire Branch of the British Medical Association—namely, "that every case of midwifery attended by a midwife should be seen by a registered medical practitioner within twenty-four hours of the commencement of labour." This I believe would adequately meet the case.

12. The second, however, is more fundamental in principle, and is what I should endeavour to secure acceptance by the General Medical Council and reference to the Privy Council as being a complete legislative safeguard against the attempted contravention of the Medical Acts. I propose that when any report on a Midwifery Nurse's Bill is brought forward for final adoption there shall be first adopted a Bill for the amendment of the Medical Acts to prevent the practice for gain of medicine, surgery, and midwifery by any but practitioners registered under the Medical Acts.

13. This safeguard will at the same time put a stop to the irregular practice in diseases of women and children carried on at the present time by midwives, certificated or otherwise, and chemists.

Mr. LOCKWOOD then proposed the following resolution: "That this meeting, having heard Mr. Horsley's address, pledges itself to do all in its power to secure his election as Direct Representative."

This was seconded by Dr. BENNETT, who said that he felt certain that what Mr. Horsley had promised to do he would do.

Dr. BATEMAN then read a list of letters which he had received from persons unable to be present, and asked leave to make a little personal statement. At Sir Walter Foster's meeting the other day he had felt it necessary to call attention to an article in a lay magazine which he considered to constitute a form of advertising. There ought not to be one law for the L.R.C.P. and another for the F.R.C.P.; one law for the G.P., and another for the J.P. In the current issue of the *British Medical Journal* there was an article headed "Sir Walter Foster and the *Young Man*" which said that "Sir Walter Foster has a right to complain of what we cannot but agree with him in calling an unchivalrous attack upon him on the score of an interview which has recently been published in a journal entitled the *Young Man*. This matter, we understand, was sprung upon him at the meeting without notice." This Dr. Bateman denied, explaining that Sir Walter Foster had had notice of the so-called attack. Dr. Bateman went on to say that about eighteen months ago he had been asked by the *British Medical Journal* for his assistance in a legal difficulty arising out of an ethical question. He had then, in behalf of the *British Medical Journal*, asserted that advertising was in every case unprofessional. Now the *British Medical Journal* sought to show that the interview in the *Young Man* was not unprofessional.

Several questions having been addressed to Mr. Horsley with the object of further elucidating his policy the motion before the meeting was unanimously carried.

A meeting of the Medico-Ethical Society of North-East London was held at 184, Mare-street, Hackney, on Friday, Oct. 1st, at 9 P.M., the Vice-President, Dr. C. T. Aveling, being in the chair. Mr. Victor Horsley delivered an interesting and instructive address on Medical Reform, in which he indicated clearly and concisely the changes that were necessary and how they could best be brought about. He made special reference to the Medical Act and explained fully his position with regard to the Midwifery Nurses Registration Bill, which he distinctly said he would not support until Clause XL. of the Medical Act had been amended so as to prevent midwives and midwifery nurses opposing medical men in practice. At the close of the meeting a unanimous vote was recorded in favour of Mr. Horsley's candidature for a seat on the General Medical Council.

On Saturday afternoon, Oct. 2nd, a meeting of the members of the medical profession in East Anglia was held in the Medical and Chirurgical Society's Rooms at Norwich to hear an address from Mr. VICTOR HORSLEY. Sir FREDERIC BATEMAN, M.D., presided, and there was a large attendance of medical practitioners from Norwich, Yarmouth, and other parts of the eastern counties.

Mr. VICTOR HORSLEY in the course of his address urged that the direct representatives ought to be general practitioners, and said that as such men were seldom very little known beyond their own district in order to give them a chance of election there ought to be district representation. The whole country ought to be marked out into districts, for it was not fair that all the candidates should have to appeal to the whole constituency. In this way the wants of each district could be properly represented. The last two years had seen a reform of the by-laws and of the procedure of the General Medical Council and the merit for this was due entirely to Dr. Bruce, the direct representative of Scotland, and to the Council of the Medical Defence Union. That Union had for years fought the General Medical Council on numerous points, but more especially as regarded their penal procedure. Two years ago a case occurred which revealed the fact that the President and the Solicitor of the General Medical Council had powers of an absolutely arbitrary nature. He exposed this fact at Carlisle. In an editorial article in THE LANCET it was stated of him: "He is impulsive; sometimes he is prejudiced and occasionally rather too aggressive. He is apt to be borne along with the very impetuosity of his perceptions and convictions. On one or two occasions he has allowed himself to make unwarranted charges against the President of the General Medical Council which offended not only the President but the Council." The charges he brought forward at Carlisle were published in the *British Medical Journal*, and the cases on which they were based were published at the same time. He showed that under the by-laws the President was the only person who could have done the things he complained of. The matter was taken before the Council by members of the Council sitting *in camerâ*, and they never called upon him to produce his documents, but issued an *ex-parte* statement to the effect that the President was not responsible. Immediately that was published in the *Times* he wrote to that paper a letter pointing out that the President alone and no one else could have done the things of which the Medical Defence Union complained. That letter had never been answered and never would be. The documents were in the office of the Medical Defence Union, and if necessary would be used at the proper time. The sentences in THE LANCET were written, he was sure, in all kindliness of spirit but in ignorance of the actual facts. Very great reforms had been achieved. A new set of by-laws had been drawn up by which all improper powers had been taken away from the executive officers of the Council, so that now the profession had the satisfaction of knowing that penal cases were no longer subject to the dictum of one man, but must go first before the committee and then before the Council. Mr. Horsley went on to speak of the attitude of the Council towards the questions of medical aid associations and midwives, which, he said, had been reopened. As to overcrowding in the profession, he noticed that Mr. Colin Campbell had represented that he (Mr. Horsley) had said at Manchester that £400 a year was sufficient to support a medical man. Of course that was not correct. What he said was that some had to live on that amount, and he regretted it very much. He thought it quite possible that too many students were entering the profession, and that if the preliminary examination were raised and the five years' curriculum maintained their number would be fewer. The decreasing incomes of medical men, however, were not due so much to this cause as to irregular competition, such as hospital abuses, quacks, and medical aid associations. The medical aid associations formed a question of medical ethics which ought to be dealt with by the General Medical Council; but that body consisted for the most part of men who represented corporate bodies and who would resist to the death anything that would diminish the number of graduates they turned out; therefore, they held that it was not the business of the Council to do

anything at all, but that the qualifying bodies should deal with it in a quiet way. As he was on the Senate of the University of London he would do all he could to bring the matter clearly before them. The question was a perfectly simple one, as had been shown by the Medical Defence Union long ago. No officer of a medical aid society was received as a member of the Medical Defence Union. No doubt the evils of the medical aid associations could only be remedied by the General Medical Council itself, under the clause by which if a registered medical practitioner was after due inquiry judged to be guilty of infamous conduct in a professional respect his name should be removed from the Medical Register. The clause gave the Council no power to reprimand only, but they sometimes did so in an indirect way, and in any amendment of the Medical Act that power would be demanded. He feared, however, the General Medical Council had lost prestige with the Privy Council. As there had been gross misrepresentation of his views on the midwifery question, he had issued a circular upon the subject. He was not pledged to support the registration of midwives. If the General Medical Council was not brought to a sense of the dangers and difficulties of the position the medical profession would soon have another system of unqualified practice to contend with. Undoubtedly midwifery nurses must be taught, but they must not be permitted to treat mothers and children as they so frequently did. This evil, of course, would be accentuated if these nurses had a registered title. The Lancashire and Cheshire branch of the British Medical Association proposed that every case of midwifery attended by a midwife should be seen by a medical man within twenty-four hours of the commencement of labour, and this safeguard had been accepted by Mr. Egerton in his Bill on the subject. This would retain the moral position the profession possessed, but he felt they ought to go deeper and bring about an amendment of the Medical Act before the Midwifery Nurses Bill was brought in. The profession was suffering a great deal from the irregular practice of quacks, and that was to be stopped. He did not believe that the members of the General Medical Council were acquainted with the Act under which they were brought together and which they practically had to administer. It would be a simple matter to reform the constitution of the Act and to increase the direct representation. Mr. Horsley went on to speak in detail of the clauses of the present Act and to point out certain abuses connected with their interpretation.

The CHAIRMAN said the qualifications for the post sought by Mr. Horsley were that he should be well in touch with his profession and that he should be of sufficient social and scientific standing to enable him to speak with something like authority on the General Medical Council. He thought Mr. Horsley possessed these qualifications.

Mr. ALLEN moved: "That this meeting, having heard Mr. Victor Horsley's statement, expresses confidence in him and promises to use its best efforts to ensure his return as one of the Direct Representatives of the General Medical Council."

Dr. BEVERLEY seconded the motion.

Mr. WYLLYS, Mr. WHITTAKER, and Mr. THOMAS having made some remarks, the motion was adopted.

A vote of thanks to the Chairman was carried and this concluded the proceedings.

SIR WALTER FOSTER'S "COLLEGE REFORM" SUB-COMMITTEE AND MR. VICTOR HORSLEY'S CANDIDATURE.

A whip has been issued by the "College Reform" Sub-committee of Sir Walter Foster's Election Committee claiming support from the profession for Sir Walter Foster as the only candidate in favour of a certain reform programme. It is to be regretted that this whip was issued, and we are sure that Sir Walter Foster will share this feeling with us, inasmuch as Mr. Horsley had actually replied to Mr. George Jackson, one of the signatories of the whip and of the programme, in the following terms:—

COPY.

25, Cavendish-square, W., 4th Oct., 1897.

DEAR MR. JACKSON,—I agree with all the Reforms mentioned in the circular you kindly send me, and though some are plainly impossible of attainment for a long period I would use every effort to press them forward.

May I add that I cannot see that our views as to what is urgently required to further the interests of the profession are in any degree divergent. And remain, yours sincerely,

George Jackson, Esq., F.R.C.S. VICTOR HORSLEY.

The sub-committee are, we understand, giving what publicity they can to Mr. Horsley's favourable reply, but manifestly their hasty and inaccurate whip may have misled many voters inasmuch as voting commenced last Monday.

THIRTY-NINTH ANNUAL REPORT OF THE GENERAL BOARD OF COMMISSIONERS IN LUNACY FOR SCOTLAND.

THE number of lunatics under official cognisance in Scotland on Jan. 1st, 1897, was 14,500. This represents a total increase for the year 1896 of 407, as compared with 241 in the previous year. Between Jan. 1st, 1896, and Jan. 1st, 1897, the following increments took place among the insane in Scottish asylums. The population of the Royal and District Asylums shows an increase of 17 private patients and 502 pauper patients. In private asylums there is a decrease of 7 patients; in parochial asylums a decrease of 109 pauper patients; in lunatic wards of poor-houses an increase of 11 pauper patients; in private dwellings an increase of 2 private patients and a decrease of 33 pauper patients. All patients located in the above-mentioned establishments are termed registered lunatics, and the total increase of this class during 1896 was 383, of whom 12 were private patients and 371 pauper patients. The changes in the number of non-registered lunatics are indicated by the following figures. The number of insane criminals in the lunatic department of Perth Prison shows an increase of 5, and in the training schools for imbecile children there is an increase of 3 private inmates and 16 pauper inmates.

The table which records the number of admissions of registered lunatics into establishments, after deducting transfers, shows that the number of private patients admitted last year was 482, or 33 fewer than during the preceding year, and that the number of pauper patients admitted was 2645, being 111 more than in 1895; 87 voluntary patients were admitted into asylums with the sanction of the Board. The Commissioners continue to regard the provision of the law which permits the admission of patients without certificates as satisfactory, and they state that nothing has occurred to indicate any difficulty or disadvantage traceable to the presence of this class of patients in asylums. During 1896 the number discharged recovered was 1340; of these, 209 were private patients and 1131 pauper patients. The number of private patients who died in establishments during the year was 131, which is 6 more than in 1895; the number of pauper patients who died was 721, being 93 less than in the preceding year. The rate of mortality per cent. was for private patients 6·8 and for pauper patients 7·9. General paralysis, phthisis, heart disease, and senile debility were the most frequent causes of death; in this connexion it is worthy of mention that no death took place from phthisis in any of the private asylums. The statistics afford no information as to the total number of post-mortem examinations performed, but a perusal of the notes of the Commissioners on the various asylums leads to the belief that the number is capable of being increased. At the same time, it is only right to state that original pathological research seems to be carried on with assiduity in many institutions. 180 patients effected their escape; with the exception of 20 all were brought back within the statutory period of twenty-eight days; indeed, 93 were absent less than twenty-four hours. There were 100 accidents, of which 18 terminated fatally, including 12 suicides. Of the 6 fatal accidents not due to suicide 4 were caused by suffocation in bed during a fit, 1 by assault of a fellow-patient, and 1 probably occurred during a struggle with an attendant. This matter was fully investigated by the Crown authorities and by the Commissioners; the attendant implicated was apprehended, but the charge against him was eventually abandoned. The management of the various establishments is favourably spoken of by the Commissioners in the reports of their visits. Overcrowding seems to be rife in the majority of the royal and district asylums, and in these institutions, with one exception, the use of restraint and seclusion is more or less in vogue, although always applied for adequate reasons.

The Commissioners continue to express unabated confidence

in the system of boarding out suitable cases in private dwellings, and the beneficial effects of this method are set forth in glowing terms in the lucid and instructive reports of the Deputy Commissioners. As the result of their inspections the Deputy Commissioners are agreed that the condition of those so boarded out is generally satisfactory, and that their environment is conducive to their well-being, both mental and bodily, except perhaps in some instances where the patients are living singly with relatives, whose mistaken kindness frequently leads to the further deterioration of the lunatic. Under the circumstances it is somewhat disappointing to find that the number of pauper lunatics boarded out in private dwellings has decreased during the year 1896 from 2700 to 2667. The authorities, however, do not attach any special significance to this decrease, but attribute it to certain restrictions adopted by them to meet the growing tendency of accommodating more than 2 patients in one house and to prevent the aggregation of lunatics in certain localities. It is not anticipated that these restrictions will have more than a temporary influence upon the number of patients provided for in private dwellings.

The report contains a powerful appeal on behalf of the poorer class of private patients who are only able to pay a very moderate rate of board. The accommodation for this class is at present very inadequate, and the majority have no option but to have recourse to the parish council, who usually consent to their removal to asylums as paupers on the understanding that the whole board, or as much of it as possible, shall be refunded to the parish. The relatives, however, speedily realise that the patient is completely pauperised by this proceeding and frequently endeavour to escape from the burden of maintaining him. The Commissioners, therefore, consider that fresh legislation on the subject is desirable, both in the interests of private patients of the poorer class and the ratepayers, and they recommend that district boards should be empowered to provide accommodation suitable for this class. The proportion of private lunatics in establishments was 46 per 100,000 of the population, which is the same as last year. The ratio of pauper lunatics in establishments per 100,000 of population was at the beginning of this year 224, which is 8 above last year, and is the highest figure yet recorded. The proportion of all pauper lunatics per 100,000 of population shows an almost continuous increase since 1858, and at the beginning of the present year attained its highest point, 237, as compared with the next highest, 231, which was attained last year. The Commissioners, however, are of opinion that the increasing number of registered lunatics does not prove that there is any increased liability to insanity in the community. In this they are in agreement with their *confrères* in England and Ireland. It is a comforting assurance, and it is to be hoped in the national interest that in the long run it will prove correct. The report yields in no particular to its predecessors, and is characteristic of the practical and enlightened policy which has always marked the administration of Scotch lunacy affairs.

OPENING OF THE LONDON MEDICAL SCHOOLS.

WINTER SESSION, 1897-98.

St. George's Hospital.—The opening of the winter session was inaugurated by a pleasant and successful dinner held on Oct. 1st in the Whitehall rooms of the Hôtel Métropole, under the presidency of Dr. T. Whipham, who has recently taken the melancholy step upwards from senior physician to consulting physician. There were over one hundred guests present, and the speeches were all of a cheerful character, as the progress of the school has recently been very great. The best speeches were made by Mr. Holmes, whose connexion with the hospital as honorary treasurer is rather a remarkable sequel to his long connexion with the hospital as surgeon, and by Dr. Isambard Owen, who was able to announce that the respectable number of upwards of fifty students had joined. A hearty vote of thanks was accorded to Mr. G. R. Turner and Dr. Dakin for their services in arranging the dinner. Dr. Manson's introductory address has already been published in our columns.

St. Mary's Hospital Medical School.—The annual dinner of the past and present students took place at the King's Hall of the Holborn Restaurant on Oct. 1st, Mr. A. J. Pepper being in the chair. The dinner was well attended, upwards of 160 persons being present. The chairman was supported by Sir William Broadbent, Mr. George P. Field (the dean of the medical school), Mr. Edmund Owen, Dr. Lees, Mr. Herbert Page, Dr. Luff (sub-dean), and other members of the hospital staff. Among those present were Fleet-Surgeon Preston, R.N., Brigade-Surgeon-Lieutenant-Colonel Myers, Surgeon-Lieutenant-Colonel A. F. Clarke, Dr. John Anderson, C.I.E., Mr. Thomas Wakley, junior, Dr. Waller, Mr. Plimmer, Dr. Laurie, Dr. Danford Thomas, Dr. Nix, Dr. Cundell, Dr. Wills, Mr. B. Thornton, and Dr. John Moore. The toasts of "The Queen" and "The Prince and Princess of Wales" were given from the chair and received with enthusiasm. The chairman proposed "The Army, Navy, and Reserve Forces," which was responded to by Fleet-Surgeon Preston for the Navy, Brigade-Surgeon-Lieutenant-Colonel Myers for the Army, and Brigade Surgeon-Lieutenant-Colonel Danford Thomas for the Reserve Forces. In proposing "Prosperity to St. Mary's Hospital Medical School," the chairman alluded to the great progress made by the medical school during the last fifteen years and to the important positions to which its old students had attained in every branch of the profession. He referred to the successive improvements which the medical school had undergone, and more particularly to the extensive alterations now approaching completion. He contrasted the facilities which now existed for the teaching of physiology with those of former days, and cited as evidences of progress the increased opportunities recently provided for experimental work and laboratory teaching in pathology, including bacteriology, as well as in physiology and chemistry. Dr. Lees proposed the health of the Dean of the Medical School, Mr. G. P. Field responding. The toast of the "Past and Present Students" was proposed by Mr. G. P. Field and responded to by Mr. H. Manders for the past and Mr. W. H. Willcox for the present students. Dr. J. F. Wills proposed "The Staff." Dr. Sidney Phillips replied, and gave the health of the chairman, to which Mr. Pepper responded. A musical programme, arranged by Dr. Scanes Spicer, concluded the proceedings, and the dinner was in all respects one of the most successful of recent years.

Guy's Hospital.—The session opened on Oct. 4th with a house dinner of the Students' Club in the College dining-hall, and a general meeting of the Students' Physical Society in the new lecture theatre. Sir Samuel Wilks was the guest of the Students' Club, and he subsequently presided over the meeting of the Physical Society. More than three hundred past and present students assembled and accorded a hearty welcome to the chairman on his first official visit to the hospital since he had received the honour of a baronetcy. Sir Samuel Wilks welcomed the students who had that day entered the hospital and recounted many amusing reminiscences of the medical school with which he had been connected for more than fifty-five years. He created great merriment among his audience by his criticism of modern "scientific" prescriptions, and pointed out that while so little real progress had been made in therapeutics the profession was making rapid advances in pathology and sanitary science. Dr. Muspratt read a paper to the Society dealing with some of the difficulties—professional, ethical, and legal—to be met with in private practice. At the termination of the meeting the company adjourned to the new physiological laboratories and class-rooms, where an exhibition was held of physiological apparatus, surgical instruments, pathological drawings, &c.

King's College.—On the afternoon of Oct. 1st, the Principal, the Rev. Dr. Robertson, distributed the prizes to the successful candidates, and he delivered an interesting inaugural address. In the evening the customary annual dinner of old students of King's College Hospital was held at Limmer's Hotel, Conduit-street, the chair being taken by Mr. F. Richardson Cross, of Clifton, whose popularity was demonstrated by the numbers attending the dinner, many of whom came very great distances at considerable personal inconvenience. In proposing the toast of the evening, "King's College Hospital and its Medical School," Mr. Cross gave a brief but interesting account of the history of the foundation of University College and of King's College, and dwelt upon the special aims of the founders of King's College, and the impossibility of materially altering these aims unless by appealing for a new charter. He made

kindly reference to the long connexion of Richard Partridge with the College and hospital, and in an endeavour to compare the work of Fergusson and of Lister he found a happy simile in the title of Erichsen's Text-book of Surgery. "The Science and Art." Art was represented by Fergusson, science by Lister. The work of Kelly, Baxter, Sir George Johnson, Sir Alfred Garrod, Sir William Bowman, Dr. Todd, Dr. Beale, Dr. Rutherford, and Dr. Ferrier, were in turn dwelt upon in felicitous terms. The Rev. Dr. Wace and the Rev. Dr. Robertson replied on behalf of the Hospital and the Medical School.

London Hospital.—The session was opened by the annual old students' dinner on Oct. 1st. Dr. A. E. Sansom presided over a successful gathering of old students and distinguished visitors, amongst whom were Professor Clifford Allbutt and Dr. John Lowe. The speeches were purposely made as few as possible in order that the foregathering of old friends in the museum might be early indulged in. Dr. Sansom proposed "The Hospital and College" in very felicitous terms. The House Governor made an excellent speech in replying for the hospital, and Mr. Treves responded for the college in his usual admirable style of after-dinner oratory. Professor Allbutt, in replying to the toast of "The Visitors," expressed the great pleasure that he felt in visiting the hospital where so many of his pupils completed their clinical studies, and he trusted that the present cordial relations between the London Hospital and the university which he represented might long continue. The Hospital Photographic Society took a most successful picture of the company by flash light.

Royal Free Hospital and the London School of Medicine for Women.—On Oct. 1st a conversazione was held at the Royal Free Hospital to inaugurate the winter session. Moore Ward, which was temporarily empty, was utilised, having been prettily decorated for the occasion. In addition to a selection of vocal and instrumental music an address, an abstract of which will be found in THE LANCET of last week, was delivered by Mr. J. Grosvenor Mackinlay, the senior ophthalmic surgeon to the Hospital.

University College Hospital.—The winter session was opened at University College Hospital on Oct. 4th, by a lecture delivered at the college by Mr. Raymond Johnson, assistant surgeon to the hospital. The address will be found in another column. In the evening the past and present students of the Faculty of Medicine dined together in the Victoria Room of the Hôtel Cecil, Dr. Charlton Bastian, F.R.S., being in the chair. After the usual toast of "The Queen" the chairman proposed "Success to University College," and mentioned that, owing to the liberality of Sir Blundell Maple, the re-building of the hospital had already commenced, and that it was hoped that the north-west pavilion would be ready for occupation by this time next year. During dinner Dr. F. T. Roberts, Dr. Tait, and Mr. Turner contributed to the enjoyment of the evening by singing several songs, which were enthusiastically received. Among those present may be mentioned Sir William Gowers, Sir John Williams, Dr. Hare, Mr. A. E. Barker, and Mr. R. J. Godlee, the Dean of the Faculty of Medicine.

Westminster Hospital.—The winter session of the medical school opened with an inaugural address by Professor G. B. Howes, F.R.S., and the distribution of prizes by Mrs. Howes. After the address a conversazione was held, which was attended by a large number of old and present students and their friends, a very pleasant evening being passed. No dinner was held this year, but the conversazione attracted a much larger number of old students than usually attended the annual dinner.

St. Thomas's Hospital.—On Oct. 2nd, after the annual distribution of prizes in the Governor's Hall at the Hospital, the old students dined together at the Whitehall Rooms of the Hôtel Métropole. Sir William MacCormac., Bart., took the chair, and the gathering was a most successful one, the number present (181) being an increase of nearly forty over any previous occasion. Dr. Fairbairn, who had given away the prizes in the afternoon, proposed "St. Thomas's Hospital, Past and Present," in a witty speech. This was responded to by the Treasurer, by Dr. Hawkins (the Dean), and by Dr. Foord Caiger. The Dean, in noting the chief improvements of the past year, mentioned the now nearly completed clinical laboratory. He also congratulated the school on having obtained nine acres of the best ground in London for the use of the amalgamated athletic clubs. He spoke in regretful terms of the retirement of Dr. Ord who, in addition to proposing "The Chairman," made a feeling speech in response to an enthusiastic impromptu call. Sir Felix Semon was also congratulated on his recent honour. The chairman on rising to respond to his health met with a great reception and the toast list was completed with the "Honorary Secretaries" proposed by Dr. Barry Blacker.

Middlesex Hospital.—The annual dinner of the past and present students took place on Monday, the 4th inst. Mr. Storer Bennett, F.R.C.S., dental surgeon to the hospital, took the chair. There was a very large gathering, the company numbering upwards of 150, including Lord Strathcona and Mount Royal, Sir Arthur Watson, Bart., deputy-chairman of the weekly board of the hospital, Dr. Buller, of Montreal, Mr. Wilhelm Ganz, Mr. T. W. Nunn, Mr. Balding, of Royston, and all the members of the medical and surgical staff. The toast list comprised the usual loyal toasts, followed by that of "The Services," given by the chairman and responded to by Surgeon-Lieutenant-Colonel G. S. Griffiths, Surgeon E. D. J. O'Malley, R.N., and Captain Wm. Duncan. The chairman next gave the toast of "The Middlesex Hospital and School" in an eloquent speech, in which he referred to the establishment of the Clacton Convalescent Home, the building of the new cancer wing of the hospital, and the extensive additions and alterations now being made to the school buildings. The toast was responded to by Sir Arthur Watson and Dr. W. Pasteur, the dean of the medical school. Dr. Cayley gave the toast of "The Past and Present Students," which was replied to by Mr. J. Smith Turner and by Mr. H. F. Hine, the Broderip Scholar of the present year. The toast of "The Guests" was proposed by Mr. Henry Morris and acknowledged by Lord Strathcona and Mount Royal and Mr. W. Ganz. Sir R. Douglas-Powell, Bart., proposed "The Chairman," which closed the proceedings which had been of a most enthusiastic and enjoyable description. The musical arrangements were under the admirable guidance of Mr. W. Ganz, who in his speech referred to the fact that he had been present at these annual gatherings for a period of nearly thirty years, the vocal part of the entertainment being rendered by Miss Stella Maris, Mr. James A. Bovett, and Mr. J. W. Myler, whilst Mr. Paul Storving gave two excellent selections on the violin.

THE FRONTIER RISING AND INDIAN POLICY.

WE have, in addition to the war news from the front, reports of the speeches of Sir George White, the Commander-in-Chief in India, and those of Mr. John Morley in this country on Indian policy. With the political aspect of the question regarding the border tribes on the north-west frontier we are not concerned; it is not within our province as medical journalists to discuss questions of military policy. We cannot avoid, of course, forming some opinion thereon in common with any other interested reader of the news from our great Eastern dependency, but our views in this respect can have no special interest for our readers. The future policy of the Indian Government with regard to the tribes occupying the extensive belt of territory between India and Afghanistan is without doubt a very grave question as far as that Government and its exchequer are concerned, and it will most probably form the subject of serious debate when Parliament meets. The present is no time, however, for discussing questions of this kind or for criticising the wisdom or otherwise of the "forward" policy. It is not a time for arguing, but for action. The campaign that has been entered upon must be fought out spite of the cost in life and still more in money that it entails. This country cannot "back out" of the situation without a loss of prestige, which, where Eastern races are concerned, would be little short of disastrous, for it would be great incitement to further action on the part of the aggressive and turbulent tribes on the one hand, and a grave impairment of the moral strength of our own army on the other. The tribesmen must be read a severe lesson and taught that they cannot treacherously raise a revolt against our power with impunity. When that matter has been unmistakably settled will be the time for debating about

questions of policy. One of the most surprising and curious things about these frontier risings is the fact that they were totally unexpected. The political officers of the Indian Government were entirely ignorant of what was going on beyond the frontier, the tribes were in our pay for keeping the mountain passes open at the time of their rising against us, there had been no outward and visible sign of their discontent beforehand or at the moment, much less of the widespread nature of the rising and the more or less general inter-tribal organisation that existed. As far as the Afridis were concerned they had been unusually quiet for some time, receiving their retaining pay from the Indian Government and amicably fulfilling their obligations. The fact that this was so shows the necessity where Asiatic tribes are concerned for our being always on the alert. Matters had gone beyond the power of the "politicals" to settle when the exact nature of the situation was disclosed, and it only remained for the sword to cut the knots in it. This has in a great measure been already done. The rapidity, all things considered, of the military movements, the gallantry and success of the troops in the field, and the loyalty and devotion displayed by the native army have been striking features in all that has taken place. A good deal has been made of the hard fighting and apparent checks that have arisen in connexion with General Jeffreys' force, whereas the explanation has simply been that an unexpected and disproportionate amount of difficulty and fighting has fallen to the share of this brigade, which has from the first found itself in several tight places. But it is only fair to say that the General has always been equal to the occasion, and in the expressed opinion of General Sir Bindon Blood has handled his force with great dexterity and skill. General Elles's column and the other brigades have all done extremely well; they have seemingly had less difficulties and, on the whole, less hard fighting to encounter. The wounded are reported to be going on satisfactorily and the troops in the field are enjoying good health. The field hospital system is working well considering the difficulties of the country, of transport, and commissariat it has had to encounter. It may be fairly said that the Mohmand campaign has been a successful one, regard being had to all the trying circumstances attending it in the way of heat, pressure of work, scarcity of water, and the severity of the opposition. The hardship encountered on expeditions of this nature is really very considerable, and the difficulties have, in the opinion of those best able to judge, been admirably surmounted. One of the measures adopted in this campaign—namely, that of disarming the recalcitrant tribes—is a very wise one, for the tribesmen will always be ready to use any arms in their possession. Everything has by this time been pretty well arranged for Sir William Lockhart's punitive expedition to Tirah, and if all goes well with it, as we have every reason to hope and believe, the submission and disarming of the Afridi and Arakzai tribes will before long be secured. The force gathering on the north-west frontier in point of numbers and quality is the finest that has appeared there; it includes the pick of the army, European and native. The number of native followers and of mule and camel transport is enormous, and the expense of the expedition must be enormous also.

ST. MARY'S HOSPITAL, which has been closed for two months for extensive repairs, has now been re-opened for the reception of in-patients. The out-patients' department resumed work on Oct. 4th.—At the Medical School the following scholarships have been awarded:—Entrance Scholarships in Natural Science (September, 1897): £144, M. F. Kelly; £78 15*s*., J. B. Albury; £78 15*s*., D. E. Finlay; and £52 10*s*., J. H Wells. University Entrance Scholarships: £57 15*s*., F. C. Eve; and £57 15*s*., C. Killick.

DERBY ROYAL INFIRMARY CONVALESCENT HOME.—The Holbrook Convalescent Home, which receives cases from the Derby Royal Infirmary, is about to be pulled down and replaced by a larger building which will provide accommodation for twenty-eight inmates. The front of the new edifice will be two storeys in height, the corridors and staircases will be fireproof, and there will be a central tower for the storage of a supply of water. The divisions allotted to each sex will be completely separated. The cost of building is estimated at £5000 or upwards, the whole of which will be defrayed by Alderman Herbert Strutt, J.P., who has also provided an additional sum of £3000 as an endowment.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Circumstances of Wribbenhall, by Dr. THEODORE THOMSON.—Wribbenhall is a village of 1278 inhabitants in the rural district of Kidderminster; its ordinary death-rate slightly exceeds that for rural England; but of 218 deaths registered in ten years, no fewer than 54 took place in children under one year of age; the rate of infant death per cent. of registered births being distinctly excessive. Having regard to this, Dr. Thomson describes the sanitary circumstances of the village in much detail, and he gives a number of specific instances of the existing state of affairs. Amongst the latter we find a record of dwellings that are damp and are built back to back, of ill-paved yards, of leaky cesspools close to houses, of offensive cesspit privies, of lack of scavenging even where the closets are of reasonable construction, of wells sunk in the same porous sandstone as that which receives privy and cesspool soakage; and, in short, of most of those conditions which go to make village life even more risky than that of some of our largest communities; and, when it is remembered that infant life is perhaps the most sensitive test of unhealthy conditions of dwellings and their more immediate surroundings, it is not surprising that there is an excess of infant death in this village. Prominent amongst the sanitary needs of the place are a water-supply that shall not be subject to pollution, a decent system of sewerage, a proper system of closets and of excrement disposal, the paving of yards with such an impervious paving as shall prevent soakage of liquid refuse into the soil about houses, and the closure or improvement of houses which are unfit for habitation. Now that these matters have been distinctly set out for the Kidderminster Rural District Council it is to be hoped that some systematic action will be inaugurated.

On the Sanitary Circumstances of Eaton Bray, by Dr. S. W. WHEATON.—This report deals with a Bedfordshire parish of 1330 persons, lying in the newly constituted rural district of Eaton Bray. As regards dwelling accommodation, it seems clear that under the previous sanitary administration a substantial beginning of good work had been done; but there still remains plenty to do to remedy or close houses that are unfit for human habitation by reason of dampness of floors and foundations, bad drainage, and stagnant pools of water or farmyard drainage about them. Then, again, wells are very commonly sunk in such positions as make them liable to contamination from surface washings, from manure deposits, and by reason of leakage from vault privies; and it seems clear that extension of the system under which wholesome water has already been in part procured through the action of the district council is much needed. There is no system of sewerage, and, as must almost necessarily result, nuisance from accumulations of liquid filth arises. Pail privies are replacing vault privies, but the scavenging is imperfectly done. At the same time, it is due to the district council to explain that, whilst they undertake the emptying of pail privies through their contractor, they decline to do the same for vault privies because they thus desire to induce the replacement of the vault privy system by the much more cleanly and wholesome system of pails. Reviewing the whole circumstances of this village it becomes especially clear that until the district council provide a wholesome water-supply for all the inhabitants, and lay down some means of drainage that shall properly dispose of the liquid filth of the place they will not have performed their statutory duty.

On the General Sanitary Circumstances of the Borough of Bewdley, by Dr. THEODORE THOMSON.—This inquiry was instituted on a representation made by the Worcestershire County Council as to the failure of the Town Council of Bewdley to provide a proper water-supply for the borough, to put in force the Housing of the Working Classes Act, and to provide the borough with efficient sewers and thus prevent the pollution of the Severn by the discharge of sewage into it. It would appear to be the custom of the Local Government Board to hand these representations in the first instance to their Medical Department, and in a large number of cases

this has done away with the need for further and more formal action, the authorities concerned having acted on the advice given them to remedy the conditions complained of. Bewdley is one of the old and little boroughs of England, and it is diminishing even further in population, the number of inhabitants having fallen from 3088 in 1881 to 2876 in 1891. It thus compares rather with rural than with urban districts, and as such its annual death-rate of 17·3 per 1000 is by no means small. The infantile death-rate is distinctly in excess of that for England and Wales. The cause of this is not far to seek. In certain parts of the town the yard surfaces are broken and uneven, and the dwellings are old, badly lighted, dilapidated, and damp. Indeed, of the dwellings inspected, Dr. Thomson says: "There were few that did not present some defective condition." The existing barrel sewers have their bricks set in mortar. They are of excessive size, and naturally they have become defective and contain silted-up and offensive material; besides which they have no manholes or lampholes, and they are for the most part unprovided with means of ventilation. Some houses are undrained; here and there cobble channels allow of stagnation of slop-water, and the house drains are seldom properly disconnected from the sewers. The cesspit privy prevails generally in the district, and it is contrived on precisely those conditions which ensure nuisance and danger to health and, above all, to infant life. The Town Council contract to empty these structures, but they allow the contractor to make a charge on the tenants. This duplicate system is one that not only always fails, but it is probably quite illegal under the Public Health Act. Drinking-water is scanty at certain seasons in some parts of Bewdley and it is equally defective there in point of quality. "All wells ....., whether public or private, are sunk into formations necessarily largely fouled by excremental and other refuse matters from leaking cesspits, ashpits, sewers, and drains with which the ground under the town of Bewdley is riddled." Dr. Thomson discusses the whole question of the local sanitary administration in detail, and he shows in a convincing manner how unfortunate that administration has been. These small dwindling boroughs are often in default because their responsibilities are beyond their means and their power of action; and it is quite possible that this may be the reason for the persistent neglect of this Town Council to give effect to the advice of their medical officer of health. We are only astonished that the County Council limited their representation to the three matters specified; but we assume they deemed them the most pressing. Now that the maintained neglect in so many matters has been definitely set out, and now that it has been shown that some of the commonest causes of the excessive infant death-rate in this steadily diminishing population are in full operation, it is to be hoped that the County Council and the Local Government Board will follow out the initial step which has been taken in the matter.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

St. Pancras District.—The St. Pancras Vestry have, Dr. John Sykes reports, sanctioned the bacteriological examination of secretion from doubtful cases of diphtheria and of blood from cases suspected to be enteric fever. Every medical practitioner in the district has had an outfit box sent to him, which, when the occasion requires, is remitted charged to the medical officer of health, an uncharged box being at once sent him in return. The charged boxes are transmitted daily to the British Institute of Preventive Medicine, and next day the result is forwarded through the health department to the medical practitioner. Sleeping accommodation has now been added to the St. Pancras "Shelter," in order that persons whose houses are being disinfected and the walls stripped and cleansed may remain in comfort during the whole process. While dealing with the subject of washhouses, and the difficulties pertaining to their provision on an adequate scale, Dr. Sykes expresses the opinion that (1) "in every tenement house there should be required to be provided a place where the occupants can do their clothes washing and personal cleansing"; and (2) that "as St. Pancras contains such a very large number of one- and two-roomed dwellings the by-laws for tenemented houses should be supplemented by a by-law requiring the provision of accommodation for clothes washing and personal cleansing." Dr. Sykes gives a complete list of bakehouses in St. Pancras, and he has constructed an ingenious diagram showing the number of bakehouses above or below the ground. Of the two hundred bakehouses in the parish only 15 per cent. have the floor above the ground level, while 74·5 per cent. have the floor 6 feet or more below the level of the ground.

Islington District.—According to the first quinquennial census the population of Islington on the night of March 29th, 1896, was 336,764. This population gives to Islington a very prominent position as compared with that of most of the thirty-three large towns, the only towns besides London possessing a population in excess of that of Islington being Birmingham, Liverpool, Manchester, Leeds, and Sheffield. It is not customary to think of the parishes of the metropolis in this manner, and hence to some extent their individuality appears to be lost sight of. The density of the population of Islington is greater than that of any of the thirty-three large towns, but there are seventeen sanitary districts in London having densities of population greater than Islington. There were 288 deaths in Islington from measles during 1896, and there seems to have been some want of harmony between the sanitary authority and the London School Board. Mr. Harris points out that if there is to be anything like satisfactory joint action between medical officers of health and the medical officers of School Boards it will be necessary that the *locus standi* of the latter officers shall be defined by the Local Government Board. Medical officers of health have very definite powers with respect to school closure, &c., and although it is eminently desirable that complete harmony should obtain between these officers and the School Board medical officers it appears to us that anything like dual control might at any time prove a source of friction and a danger to the public health. Voluntary coöperation let there be by all means, and let the usual courtesies of interchange of information and opinion always obtain, but decisive action should rest with one officer alone. Mr. Harris, after referring to a case of small-pox which was erroneously diagnosed as chicken-pox, urges that the General Medical Council should compel all students to examine a certain number of cases of small-pox before proceeding to their examinations. However desirable this restriction may be, we are afraid there would be found serious difficulties in the way of carrying it into effect, and although in the future small-pox may be more prevalent than it is at the present time we doubt the expediency of making the proposed restrictions in anticipation. To afford every facility and encouragement to students and medical men to see cases of small-pox when they occur is, it seems to us, as far as matters can go at present. With infectious diseases other than small-pox the case is different, but at the same time we would not withhold a diploma because the applicant for it had not seen a patient suffering from typhus fever. We note that the work of Miss Gray, the female inspector of workshops in Islington, has been attended with good results.

Glamorganshire County District.—Glamorganshire is by far the most important county in Wales, whether regard be had to its area, its population, or its trade; and it is as it should be that the county is setting an excellent example to other Welsh counties, and not a few English ones, in the matter of its public health administration. Dr. William Williams, the county medical officer of health, has made himself thoroughly familiar, by means of a personal survey, with the condition of the administrative county, and he is now turning his knowledge with much effect to the bettering of its sanitary state. Aberdare, with a population of 44,000, is now the only district in the administrative county outside the provisions of the Compulsory Notification Act, and it is to be hoped that before the next report reaches us the district will have tired of its unique position. Glamorganshire has a high birth-rate, both the urban and rural rates being considerably in excess of that for England and Wales. The county death-rate was but 17 per 1000, the separate rates varying from 20·3 and 9·9, while the infantile mortality amounted to 180 per 1000 births. Dr. Williams notes with much satisfaction that the incidence of, and mortality from, enteric fever has diminished. As regards isolation hospital accommodation much has been done during 1896, and we read of a small-pox hospital at Bridgend and of another at Pontypridd, while the sanitary authorities of Cardiff and Barry have erected on the Flat Holm island in the Bristol Channel a joint hospital for the reception of cases of cholera and bubonic plague. What an excellent situation for a hospital for small-pox if suitable sea ambulance provision were obtainable. The progressive people of Barry have, we are glad to see, decided to build a permanent hospital. There are good prospects of further progress during the present year, and there is probability that soon all the districts of

the county will be provided with accommodation. Dr. Williams devotes some space to an effort to obtain better regard for the provisions of the dairies, cowsheds, and milkshops order in the county, and he points out that by the improvement of the health of cows the food supply of infants will also improve, and a reduction in infantile mortality may be affected. The condition of the slaughter-houses in the county has much improved of late, a fact for which Dr. Williams can vouch as the result of having visited every such building in the county. Dr. Williams speaks highly of the good effects which have accrued from the visits of inspectors of the Local Government Board. He states that during the last four years from twelve to fourteen authorities have been reported to Whitehall by the county council, and that when government inspectors were sent down beneficial results always followed.

Cardiff Urban District.—The Registrar-General's estimate of the population of Cardiff in the middle of 1896 at 162,690 is, Dr. Edward Walford considers, probably too low, as the usual basis of estimation has been rendered somewhat unreliable by the rapid growth of Cardiff within recent years. Forty-eight cases of small-pox were brought to the notice of Dr. Walford during 1896, thirty-one of the cases occurring in January and February. In a special report upon the subject it is pointed out that among those attacked (*a*) there was no vaccinated child under ten years, (*b*) the only child attacked under ten years was unvaccinated, (*c*) no revaccinated adults were attacked. Dr. Walford points out to his sanitary authority the lesson to be learned from a study of small-pox and vaccination, and we are glad to hear that the Cardiff guardians did their duty as to vaccination. In an interesting and special report upon meat inspection Dr. Walford reminds the council that Cardiff is in quite an exceptional position as regards facilities for such an inspection, inasmuch as it possesses two public abattoirs, and has, through a private Act of Parliament, closed all the private slaughter-houses. Dr. Walford refers to the report of the Royal Commission on Tuberculosis, and insists upon the necessity for proper inspection. He suggests that a veterinary inspector should inspect all the carcasses and meat in the public meat markets, and should submit to him a written report upon any meat which he considers diseased. The medical officer of health would then, if necessary, visit the abattoir and decide upon the necessary steps to be taken. The veterinary inspector should also visit all the cows in the registered cowsheds and perform the tuberculin test upon them, every demonstrated or suspected case of tubercle to be referred to the medical officer of health. Dr. Walford is to be congratulated upon his report being acted upon by the Council and the necessary veterinary inspector being appointed. As far as we are aware the Cardiff Town Council is the first sanitary authority in the United Kingdom which has ventured to propose to apply the tuberculin test to the cows in the cowsheds, and we shall watch the development of the situation with much interest. Dr. Walford also furnishes a special report upon sewer-ventilation: he has obtained returns from several large towns on the methods of sewer ventilation and as to the existence of any illness supposed to be due to the ventilation or non-ventilation of sewers. As a result of his investigations he has been unable to detect "any influence either for good or evil upon the inhabitants of any particular method of sewer ventilation.

Renfrew County District.—Dr. Campbell Munro, when treating of isolation hospital provision in his annual report, asks if it is wise to exceed the original estimate in building such a hospital. In the case of one of the Renfrew hospitals the original estimate was £6000, but the actual cost was £11,500, and Dr. Munro observes that if the actual cost of the hospital had been known in the first instance the hospital would not have been erected and the Joint Hospitals Board would not have been formed. Nevertheless, in this instance there appears to have been no extravagance, and under-estimation seems to have been the only fault. We have known hospitals where similar circumstances have obtained—i.e., where the estimates, owing to the architect's inexperience of such buildings, has been largely exceeded, but where, had the ultimate cost been furnished in the first instance, the hospital would not perhaps have been erected for another ten years. If it is desired to avoid these under-estimates, it is most important to engage an architect who has had previous experience of such buildings, and of their fitting up. The cost of bedding, &c., is often altogether omitted from the original estimates.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6294 births and 3538 deaths were registered during the week ending Oct. 2nd. The annual rate of mortality in these towns, which had declined in the seven preceding weeks from 29·5 to 17·1 per 1000, further fell last week to 16·8. In London the rate was 15·3 per 1000, while it averaged 17·8 in the thirty-two provincial towns. The lowest death-rates in these towns were 11·7 in Cardiff, 12·0 in Croydon and in Halifax, 12·7 in Blackburn, and 12·9 in Portsmouth; the highest rates were 21·5 in Wolverhampton, 21·6 in Newcastle-upon-Tyne, 23·1 in Preston, and 23·7 in Liverpool. The 3538 deaths in these towns included 514 which were referred to the principal zymotic diseases, against 722 and 608 in the two preceding weeks; of these, 229 resulted from diarrhœa, 67 from diphtheria, 61 from "fever" (principally enteric), 60 from measles, 51 from scarlet fever, and 46 from whooping-cough. No death from any of these diseases was recorded last week in Swansea; in the other towns they caused the lowest death-rates in Brighton, Plymouth, and Halifax; and the highest rates in Norwich, Burnley, Preston, and Wolverhampton. The greatest mortality from measles occurred in Preston and in Burnley; from whooping-cough in Derby; from "fever" in Norwich and Burnley; and from diarrhœa in Wolverhampton, Salford, Burnley, Bradford, and Preston. The mortality from scarlet fever showed no marked excess in any of the large towns. The 67 deaths from diphtheria included 49 in London, 4 in Leicester, 4 in West Ham, and 3 in Cardiff. No fatal case of small-pox was registered last week in any of the thirty-three towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital on Saturday last, the 2nd inst., was 3677, against 3579, 3653, and 3697 at the end of the three preceding weeks; 349 new cases were admitted during the week, against 376 and 358 in the two preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 113 and 165 in the two preceding weeks, further rose last week to 167, but were 37 below the corrected average. The causes of 58, or 1·7 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Nottingham, Leeds, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Plymouth, Liverpool, Preston, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·4 and 17·8 per 1000 in the two preceding weeks, rose again to 19·4 during the week ending Oct. 2nd, and exceeded by 2·6 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 10·2 in Perth and 17·3 in Aberdeen to 22·8 in Greenock and 25·2 in Dundee. The 579 deaths in these towns included 41 which were referred to diarrhœa, 18 to whooping-cough, 7 to "fever," 5 to scarlet fever, 4 to diphtheria, and 3 to measles. In all, 78 deaths resulted from these principal zymotic diseases, against 101 and 78 in the two preceding weeks. These 78 deaths were equal to an annual rate of 2·6 per 1000, which was slightly above the mean rate last week from the same diseases in the thirty-three large English towns. The 41 fatal cases of diarrhœa showed a slight increase upon the number recorded in the preceding week, and included 14 in Glasgow, 12 in Dundee, and 7 in Edinburgh. The deaths from whooping-cough, which had increased from 15 to 20 in the three preceding weeks, declined again to 18 last week, of which 9 occurred in Glasgow and 3 in Leith. The deaths referred to different forms of "fever," which had been 9 in each of the two preceding weeks, declined to 7 last week, of which 5 were registered in Glasgow. The 5 fatal cases of scarlet fever were within 1 of the number recorded in the preceding week, and included 2 in Glasgow and 2 in Edinburgh. Of the 4 deaths from diphtheria 2 occurred in Edinburgh, and the 3 fatal cases of measles included 2 in Glasgow. The deaths

referred to diseases of the respiratory organs in these towns, which had been 96 in each of the two preceding weeks, rose to 137 last week, and exceeded by 92 the number in the corresponding period of last year. The causes of 33, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased from 22·4 to 28·3 per 1000 in the three preceding weeks, declined again to 26·5 during the week ending Oct. 2nd. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city has averaged 24·0 per 1000, the rate during the same period being 19·4 in London and 18·4 in Edinburgh. The 178 deaths registered in Dublin during the week under notice showed a decline of 12 from the number in the preceding week, and included 20 which were referred to the principal zymotic diseases, against 28 and 39 in the two preceding weeks; of these, 8 resulted from diarrhœa, 6 from "fever," 3 from diphtheria, 2 from scarlet fever, and 1 from whooping-cough. These 20 deaths were equal to an annual rate of 3·9 per 1000, the zymotic death-rate during the same period being 2·1 in London and 2·1 in Edinburgh. The fatal cases of diarrhœa, which had been 13 and 21 in the two preceding weeks, declined to 8 last week. The deaths referred to different forms of "fever," which had been 6 and 9 in the two preceding weeks, declined again to 6 last week. The mortality from diphtheria exceeded that recorded in the preceding week, while the deaths from scarlet fever and from whooping-cough showed a decline. The 178 deaths in Dublin last week included 47 of infants under one year of age and 44 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons exceeded the number recorded in any recent week. Five inquest cases and 4 deaths from violence were registered; and 54, or nearly a third, of the deaths occurred in public institutions. The causes of 15, or more than 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT J. McD. MCCARTHY is appointed to the Staff of the Royal Victoria Hospital, Netley, for duty, and is posted to the Medical Division. Surgeon-Lieutenant Cummins is appointed for duty to the Cork District, and Surgeon-Lieutenants Poe and Jephson have been transferred for duty to the Curragh. Surgeon-Major Maturin will hold himself in readiness to embark for service in India shortly. Surgeon-Major Smythe and Surgeon-Captain Tatham have embarked in the transport *Arvoca*. Surgeon-Lieutenant W. A. Ward is warned to be ready to embark for India in December.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Lieutenant Clemesha (Bengal) are replaced at the disposal of the Military Department. The services of the under-mentioned officers are placed temporarily at the disposal of the Government of Bombay for employment on plague duty:—Surgeon-Captain Collins, A.M.S., Surgeon-Lieutenant Morgan, A.M.S., Surgeon-Lieutenant Howell, A.M.S., Surgeon-Lieutenant Baines, and Surgeon-Lieutenant Sealy. The services of Surgeon-Lieutenant Robertson (Bengal) are replaced temporarily at the disposal of the Government of Bombay for employment on plague duty. The services of Surgeon-Lieutenant Watling (Bengal) are replaced at the disposal of the Military Department. The services of the under-mentioned officers are placed temporarily at the disposal of the Military Department:—Surgeon-Major Money-Shewan (Bengal), Surgeon-Captain Woodwright (Bengal), Surgeon-Captain Close, (Bengal), Surgeon-Captain Crawford (Bengal), Surgeon-Captain Jordan (Bengal), Surgeon-Captain O'Kinealy (Bengal), Surgeon-Captain H. St. John Fraser (Madras), Surgeon-Captain Fink (Bengal), Surgeon-Captain Hare (Bengal), Surgeon-Captain Wilkinson (Bengal), Surgeon-Captain Hunter (Bengal), Surgeon-Captain Dawson (Bengal), Surgeon-Captain Westropp White (Bengal), Surgeon-Captain Chatterton (Bengal), Surgeon-Captain Davidson (Bengal), Surgeon-Lieutenant Bensley (Bengal), Surgeon-Lieutenant Stevenson (Bengal), Surgeon-Major Deane, A.M.S., Surgeon-Captain Rivers, A.M.S., Surgeon-Captain Fleury, A.M.S., and Surgeon-Lieutenant Knapton (Bombay).

VOLUNTEER CORPS.

Royal Engineers: 1st Durham: Surgeon-Major W. Mearns, M.D., to be Surgeon-Major.

ARMY MEDICAL SCHOOL, NETLEY.

The seventy-fifth Session of the Army Medical School, Netley, commenced on Oct. 2nd. The following is a list, in their order of merit, of the Surgeons on probation who have joined at Netley:—

ARMY MEDICAL STAFF.

H. O. B. Browne-Mason	J. D. G. Macpherson
B. Watts	W. P. Gwynn
H. G. Martin	C. J. O'Gorman
F. S. Penny	M. M. Lowsley
S. de C. O'Grady	N. H. Ross
J. G. Berne	E. A. Bourke
A. H. O. Young	A. C. Lupton
J. E. S. Old	P. H. Collingwood
F. F. Carroll	G. B. Carter

INDIAN MEDICAL SERVICE.

T. H. Delany	G. Tate
J. W. F. Rait	P. K. Chitale
S. R. Douglas	G. MacPherson
S. Hunt	F. D. S. Fayrer
E. J. O'Meara	W. H. Cox
R. T. Baird	de V. Condon
A. T. Gage	H. A. J. Gidney
G. C. Laing	A. G. Sargent
H. Kirkpatrick	W. Lethbridge

CHOLERA.

The Anglo-Indian papers report that a serious outbreak of cholera has occurred in the wing of the Shropshire regiment at Sitapur; twenty-nine deaths are stated to have taken place in two days. There have been no cases in the Dorset regiment since Aug. 24th, and the report that the corps is still suffering from cholera is incorrect. The latest accounts from Bombay show that the disease is declining in that city and it is hoped that it will soon disappear altogether.

THE RISING OF THE FRONTIER TRIBES ON THE NORTH-WEST.

The papers received from India by the last mail are naturally full of the tribal rising on the north-west frontier and give detailed descriptions of the fighting up to the date of publication, but the telegraphic intelligence received in this country has for the most part anticipated their news.

We hear that Surgeon-Major D. Semple, M.D., Assistant Professor of Pathology in the Army Medical School, Netley, has proceeded on short leave to Maidstone to offer typhoid vaccine and explain the method of vaccination against typhoid fever.

AT a meeting of the British Laryngological, Rhinological, and Otological Association on July 16th the following officers were elected for the ensuing year:—President: Dr. Dundas Grant. Vice-Presidents: Mr. F. Marsh, Mr. G. C. Wilkin, Dr. J. Davison. Council: Dr. W. Milligan, Dr. A. B. Kelly, Mr. V. H. Wyatt Wingrave, Dr. W. Hill, Mr. P. Jakins, Dr. H. Woods, and Mr. Richard Lake. Hon. treasurer: Dr. MacNeil Whistler. Hon. secretaries: Mr. St. George Reid and Dr. F. Potter.

PAUPERISM IN THE NEWPORT (MON.) UNION.—At the meeting of the Newport Board of Guardians, held on Sept. 25th, Mr. Bircham, the Local Government Board Inspector, stated that ten years ago the Newport Union spent £14,000 on in-door and out-door relief, now the expenditure was £21,000, an increase of 33 per cent. The population had not increased at the same rate, and the rateable value had only increased 12 per cent. In 1887 there were 2562 paupers in the union, now they had 3400, an increase of 25 per cent. Mr. Bircham also said that the union was understaffed with relieving officers; a relieving officer could not properly look after more than 200 or 300 cases, but in the Newport Union some of these officers had over 500. The cost per head of each pauper in 1887 was £4 18*s.*, now it was £5 9*s.* Mr. Bircham thought that these matters would justify the guardians' very serious attention to these figures, as strict administration was a real kindness and would foster thrift amongst the poorer classes.

Correspondence.

"Audi alteram partem."

"THE ELECTION OF A DIRECT REPRESENTATIVE ON THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—Although I am very sensible of the kind expressions you have employed in regard to my candidature in the above-named election, I am sure you will permit me to correct an unintentional error in your description of my work. You say in a leading article in THE LANCET of Oct. 2nd that "on one or two occasions he has allowed himself to make unwarranted charges against the President of the General Medical Council which offended not only the President but the Council." I presume that you are referring to a report issued by a committee of the Council to the effect that the President was not as I had shown at the annual meeting of the British Medical Association last year responsible for the execution of certain arbitrary and, as I considered, dangerous by-laws. When that report was issued I at once published with Dr. Bateman in the *Times* and in your columns the extracts from the by-laws which proved that the President and no other official was responsible in the matters named. To this day no one has ventured to challenge our statements made in correction of the finding of the committee. The expression "unwarranted" I feel therefore is not so correct a judgment as your criticism of my other failings which you justly allude to and of which I am very conscious myself.

I am, Sirs, yours sincerely,

Cavendish-square, W., Oct. 4th, 1897. VICTOR HORSLEY.

DANGER TO THE EYES DURING ELECTRIC WELDING, BORING, AND OTHER ENGINEERING OPERATIONS.

To the Editors of THE LANCET.

SIRS,—I have read with very great interest Surgeon Robert Hill's account of the two cases of Electric Light Blindness occurring on H.M.S. *Mars*, published in THE LANCET of July 24th, 1897.

It may be remembered that some years ago I reported the cases of several engineers staying in Leeds who, after witnessing electric welding operations with their eyes only partially guarded, presented some hours afterwards identically the same symptoms—if more severe—which Surgeon Hill describes. In the case of my patients, also, cocaine "acted like a charm," and the spectacle of splendid examples of humanity writhing on their beds in agony, with their lids tightly closed as compared with their appearance and cheerfulness as they entered my rooms on the morning of the day following bears out most fully what Surgeon Hill reports. The publication of my experience, which at the time was the first of the kind on record, drew a letter from a ship-surgeon—I regret that his name escapes me—in which he recorded two very severe and similar cases, both of which occurred in electricians after attending to the electric search-lights carried on the bows of the great liners as they feel their way "dead slow" through the Suez Canal at night. Every one who has traversed "the Ditch" at night will recollect the enormous power of these electric lights. In the case of one of these electricians the attack was so severe that acute delirium set in for a while almost amounting to mania, necessitating temporary restraint.

In all the cases I have seen the vision became normal within twelve hours or less, though the great pain, photophobia, and spasm of the eyelids really made it impossible to test the vision satisfactorily during the attack. It will be observed that a considerable interval intervenes between the exposure to the electric light and the acute period of the attack. Surgeon Hill's cases agree with those I saw in this respect, though my patients noticed nothing abnormal for some hours afterwards, in fact, the electric weldings were witnessed in Birmingham and it was not until after midnight that I received a summons to see the sufferers at their hotel in Leeds. After this experience I made many inquiries and some experiments to enable me to determine the best form of shield to be held in the hands of the workmen, or glasses to be worn as protectors, whilst engaged in these operations with electricity, and I visited several works in Sheffield for this purpose.

Surgeon Hill states that "dark glasses are now always used by the men so employed" amongst the dockyard hands. I suppose from this he means "dark smoked glasses." I have no experience of the actual intensity of the electric glow in the operation known as electric boring, but it is found by experience in Sheffield that ruby glass shields or spectacles of such a density as to reduce the full light of the sun's disc to the intensity of a single candle-power are required to preserve the workmen's eyes from the effects of large electric welding operations. In view of the ever-increasing application of electricity for welding, boring, and like engineering operations, the reports of such symptoms (which agree in all details with those which I had some time ago the opportunity of observing and reporting) are of the greatest interest and importance, as pointing to the best means for their prevention and, when they unfortunately do occur, their cure.

I am, Sirs, yours faithfully,

H. BENDELACK HEWETSON,
Honorary Ophthalmic and Aural Surgeon, Leeds General Infirmary, etc.

Hanover-square, Leeds, Sept. 29th, 1897.

"REFORM IN THE SPELLING OF THE MEDICAL VOCABULARY."

To the Editors of THE LANCET.

SIRS,—Although in his very interesting allusion to the derivation of the word empyema Dr. Moore is quite correct in stating that this word is never spelt empyæma according to the Greek root from which it springs, this word has been spelt with the diphthong. Empyæma, for example, occurs in Dr. Lauder Brunton's Text-book of Pharmacology, where on page 1093 of the 1885 edition Dr. Moore will find it so written.

I am, Sirs, yours faithfully,

Oct. 4th, 1897. M.R.C.S.

A LADY-HELP.

To the Editors of THE LANCET.

SIRS,—Is it customary for examiners' wives to assist their husbands in their work? The following facts were communicated to me by an eye-witness who travelled north from Manchester on Sept. 29th. In the same carriage was seated an examiner in connexion with a northern college. Producing a bundle of papers he handed half of them to his wife to read and mark, which she did, and these were not subsequently read by the examiner himself. The work was most expeditiously gone through—the whole of the papers having been disposed of by the time the train reached Carlisle. All above a certain percentage were torn up and left under the carriage seat. Probably the lady was more than equal to the task, but it would be interesting to know whether she had been duly appointed as an examiner by the college authorities.—I am, Sirs, yours faithfully,

Oct. 4th, 1897. ENQUIRER.

MIDDLESEX HOSPITAL.—The existing school buildings of the Middlesex Hospital are about to be considerably enlarged and partly reconstructed according to plans prepared by Mr. Keith Young. Part of the buildings on the west face of the hospital garden will be pulled down, but the museum and the large theatre will remain untouched. The new buildings will form a block consisting of two portions set at right angles, one of which will contain on the ground floor a complete chemical department, including lecture theatre, laboratory, and lecturer's private laboratory; the upper floor will be occupied by pathological and bacteriological laboratories. The remaining portion of the new block will have in the basement and on the ground-floor a physical laboratory and a very complete physiological department, whilst the whole of the upper floor, some 120 feet long, will be occupied by the dissecting-room and anatomical class-room. The work has been commenced and the buildings are to be ready for use next year.

THE EPIDEMIC OF TYPHOID FEVER AT MAIDSTONE.

(BY OUR SPECIAL SANITARY COMMISSIONER.)

DURING the recent European cholera epidemic there was a strong tendency to shirk the difficulties of complex investigations by laying all the blame on the water-supply. This had a double advantage; theoretically it simplified the problem and practically it was much easier for the local authorities to deal with their water-supply than to attempt to grapple with the hundred and one other reasons that might be adduced as explaining the prevalence of the epidemic. The very elaborate reports which we published and which were the result of careful investigations conducted in the towns which had most suffered from cholera demonstrated very conclusively that the water-supply was only one of many contributing circumstances that had to be considered. It has also been shown that in the long run a great epidemic is beneficent in the saving of human life. It is only in response to the distress and alarm caused by a virulent scourge of this description that the Governments and local authorities concerned can be stirred to take effective measures and remove those conditions which produce ill-health that have always been present. A permanent cause of preventable disease is more fatal than occasional epidemics. In other words, if an occasional epidemic results in the adoption of such measures as will permanently reduce the death-rate, more lives will be saved in the course of a few years than were lost during the epidemic. These are general considerations, but they have a direct bearing on the epidemic of typhoid fever at Maidstone. On all sides the water-supply has been blamed, and there can be but little doubt that the water was the medium by which the disease was spread. If, however, one rests content with this assertion, what will be the result? The water-supply will be improved and there will be less danger of another epidemic; but this risk will not be altogether removed, and there are other epidemics possible besides those of typhoid fever. It is almost certain that the Farleigh supply, which is now completely cut off, will never be utilised again. The Cossington and Boarley supplies, which are derived from the chalk and at considerable depth, seem to be safe, but can it be said that they are absolutely safe? If pure at the intake, can no accident occur during the course of transmission by which they may become contaminated? Then are there no other means by which typhoid fever and other epidemic diseases may be communicated except by the water-supply? Have not epidemics of typhoid fever been traced to milk-supplies? Does it not seem evident that the securing of a pure water-supply only constitutes a part of the task that has to be accomplished? What is more particularly needed, not only with regard to typhoid fever, but with respect to all other preventable diseases, is the removal of all those causes which predispose the population to epidemic disease. It is not only a question of how the pathogenic germs were distributed among the population, but, above all, it is desirable to ascertain why the population was so remarkably susceptible to their influence.

Taking the first fortnight of the epidemic, that is, up to the morning of Oct. 1st, it was found that in the western district of Maidstone there had been 509 cases of typhoid fever notified. In the north-eastern district there were 417, and in the south-eastern district 147. All these three districts received the Farleigh water-supply. In the central district, which received the chalk water from the Boarley and Cossington intakes, there had only been 35 cases. These figures have been taken to prove that the Farleigh supply was the sole cause of the epidemic. But the question arises whether, after all, these figures do not prove too much. It might be urged with at least some show of reason that if the Farleigh water-supply was the sole cause there ought to have been more cases in the central district. If the district spared had not been the central district, but had been situated at some distance from the infected area, and its inhabitants had little or no intercourse with that area, then the argument would have held good. But this is not the case. Maidstone is only a very small town. Even when starting from the most distant points from five to ten minutes' walk suffices to bring one out of the central district and into one of the three districts where the Farleigh water is drunk. There is probably not a single inhabitant of the central district who has not relatives, friends, or business connexions living in one or more of the districts that depend on the Farleigh water-supply. Not scores but hundreds of inhabitants of the central district must have consumed in one form or another water outside their own little district; that is to say, they must have taken some of the Farleigh water, and this at the time when it was contaminated, yet there were only 35 cases of typhoid fever in the central district, as opposed to 1073 cases in the surrounding districts. Again, it may be asked, is not this proving too much? Unfortunately, it has been so far utterly impossible to ascertain the population of the respective districts. The only official figures available divide the town into two instead of four districts. There is the western side of the Medway, which has 16 383 inhabitants; this district—with the exception of two or three streets near the river and on a low level—is supplied exclusively from the Farleigh springs, and it is here that there had been up to Oct. 1st 509 cases. Then there is the eastern side of the Medway, with a population of 17,172. This eastern side comprises the central district with its 35 cases, and the north and south-eastern districts with 564 cases between them. What is the population of the central district? No one knows, and in the confusion and the stress of work caused by the epidemic it is not possible to obtain a computation from the authorities. The proportionate consumption of water would not throw any light on the subject because the employment of water for industrial purposes would render a comparison worthless. Nor can we judge of the population by the size of the respective areas, for though the map shows that the north and south-eastern areas are small they are more densely populated than many parts of the central area; in fact, they are the residential quarters, whereas in the centre many houses are merely business premises. But the eastern and northern sides of the central district are composed of residential streets, and off King-street there are some of the worst slums of the town. Even if only the smaller half or a third of the 17,172 persons who live on the east side of the Medway reside in the central district, it is nevertheless most remarkable that there should have been but 35 cases of typhoid fever. It does seem as if the inhabitants of this locality were less susceptible, and therefore it is necessary to inquire in what respect their condition of existence differs from the rest of the population.

The accompanying map, which with the very courteous and obliging aid of the borough surveyor I was able to draw for this purpose, clearly indicates that there is a marked difference in the local conditions. Figures dotted here and there represent the altitude of the ground in feet. With the aid of these figures it has been possible to divide the town into three zones. That nearest to the watercourses does not exceed at its highest points 40 feet. This, the lowest zone, is indicated in the centre of the map by horizontal lines. A considerable portion of the soil is composed of clay. The next zone, indicated in the map by a light stipple (cf. the area of Mote Park), marks the districts where the levels vary from 40 feet to 100 feet. All the districts beyond these two zones are above 100 feet in altitude, and it will at once be seen that it is in these high districts that the epidemic prevails. The parts of the map shaded with vertical lines represent the three districts that received the Farleigh water-supply. In two places the stippled zone overlaps these vertical lines. It will at once be obvious that the epidemic, which is confined to these Farleigh water-supply districts, is also confined to the high level districts. In the north-eastern district the 417 cases are considerably above the 100 foot limit drawn in the map. The south-eastern district with its 147 cases comes down lower, but only in one or two corners does it go one or two feet below 80 feet. On the other side of the river, in the western district, there is a more considerable overlapping; the Farleigh water-supply here descends to the 40 foot level; but the distribution of the 509 cases has not followed the water supply and is mainly confined to the higher regions. Indeed, it is a fact on which too much emphasis cannot be laid that the epidemic was not only limited to those districts supplied with the Farleigh water, but that the greater number of cases occurred in the higher parts of those districts which are already in themselves higher than the rest of the town. This was especially remarkable at the

commencement of the epidemic. In the map those streets which have been more particularly afflicted—that is, where the greatest number of cases have occurred, as, for example, Milton-street and Holland-street—have been heavily shaded, and it will be seen that they are in the higher parts of the elevated portion of the town. The arrows in the map show the directions in which the sewage flows, and the dark lines show the main or collecting sewers.

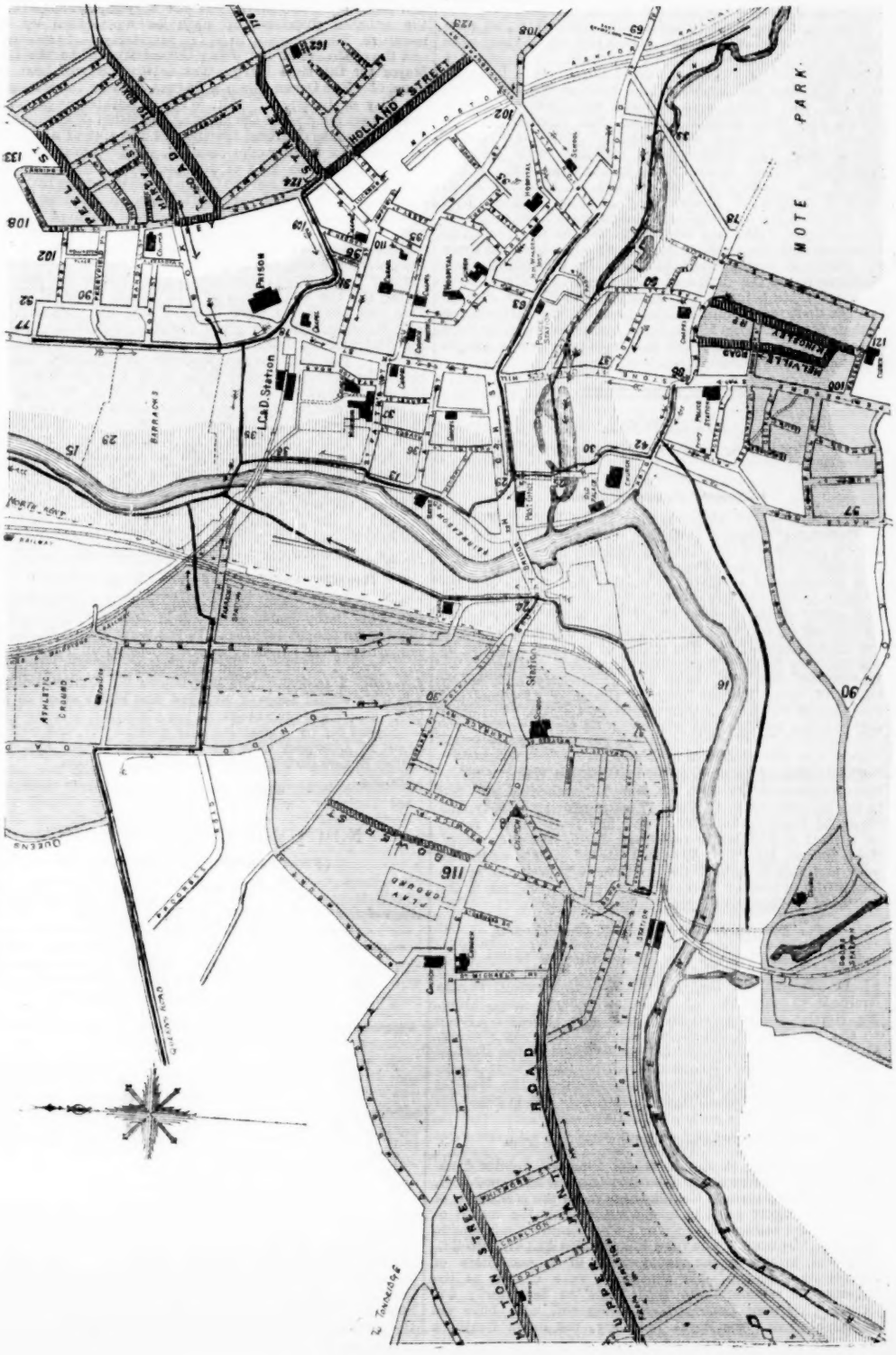
Thus a second characteristic fact is demonstrated—namely, that the epidemic does not coincide only with the distribution of the Farleigh water-supply. but it also coincides with the higher latitudes. Though it is generally considered more healthy to live on high ground the reverse has been the case with regard to the present epidemic. That this should be so is not altogether unusual. For instance, in Paris a great deal of typhoid fever has been noted in such high districts as Belleville, Montmartre, and Les Batignolles, while the low-lying quarters nearer to the Seine were comparatively free from the disease. The theory then propounded was that the sewer air travelled upwards and that a greater volume of sewer air forced its way into the houses draining into the upper extremities of the sewers. Might not this also account for the fact that at Maidstone the epidemic is confined almost exclusively to the highest parts of the town? It must be confessed, however, that though topographically this seemed plausible, the manner in which the sewers are built and laid does not tend to confirm this theory. First of all, the great majority of the sewers are pipe-sewers—that is to say, very small. Where there is, as is usually the case in Paris, a very large sewer and proportionately very little water, the downward flow of the water does not prevent the upward current of the air. On the other hand, if the sewer is very small, consisting of a pipe a third or half full of water, the friction caused by the downward rush of the water attracts the air, which then follows the flow of the water and would go down instead of upwards. But, on the other hand, the discharge of sewage is irregular, and though the air might travel downwards in the morning when the pipe sewers are very full of sewage, this would scarcely be the case at night when the pipes are nearly empty. The sewer air, undisturbed by the friction of the rushing water, would travel upwards at night and seek an exit when it approached the top or highest part of the sewers. Here the greater atmospheric pressure coming up from below would force its way through obstacles such as badly constructed traps which it had been unable to penetrate lower down the hill where the pressure was not so strong. Now it is precisely at night that sewer air produces the most deadly effect, for there is less ventilation in the houses and the power of resistance of the sleeper is probably not so great as that of a person who is awake and active. When to this is added the fact that it is acknowledged that the domestic drainage of Maidstone is far from being in a good condition, and that there are many closets which as yet are unprovided with any flushing apparatus, it seems quite clear that there are favouring circumstances to weaken the resistance to typhoid infection, when this is introduced by the medium of a contaminated water-supply.

In mitigation of this argument it must be noted that the general plan of drainage does not altogether favour this theory of the ascension of the sewer air to the higher levels, at least where the central district is concerned. First, it must be noted that the town is cut in two by the Medway. In the map is shown by arrows the direction in which the sewage flows, but the lines drawn only indicate the main collecting sewers. The two principal collecting sewers are on either side and close to the river. They are large sewers with insufficient fall and therefore they are not self-cleansing. They have only been thoroughly cleaned out once, but they are constantly being partially cleaned. The western side of the town, which is shaped like an elbow, is entirely surrounded at its base by its main collector. Towards its northern extremity this collector receives the whole of the sewage from the eastern side of the town. The gases generated on the western side cannot, however, travel over to the eastern side, for the syphon which conducts the sewage from the eastern bank of the Medway right underneath the river bed to the collector on the western bank constitutes a gigantic trap which would effectually arrest the passage of sewer air. It will be noted, however, that at a very short distance beyond this connecting syphon there is a branch main sewer which travels at right angles up Buckland Hill till it reaches the asylum, which is at an altitude of 234 ft. This branch sewer, as it follows an upward course, might well constitute itself into a sort of ventilating shaft for the principal collector, and this just at the point where the two drainage systems join together and the sewage of the en town passes by. It is also to be observed that, though complaints are made in almost all directions of the bad odours escaping from the man-holes or street-sewer ventilators, a man-hole connected with this branch collecting drain, which, as explained above, may act as a ventilating shaft for the principal collector, is considered one of the very worst in the town. The main collector proceeds to a distance of about one and three-quarter miles from the town. Here there are precipitating tanks. The sludge obtained by mixing lime with the sewage is pressed into cakes, but the manure thus made is of such little value that the town authorities instead of selling it have to pay a shilling a ton to get it carted away. The sewage after clarification flows into the tidal part of the Medway. The treatment of the sewage at the outfall can, however, have little or no bearing upon an epidemic which has occurred nearly two miles away up the stream. What is of interest is to trace how far the sewer air from the main collector which runs at the foot of the western district can travel upwards and so permeate the houses above as to render their inhabitants especially susceptible to the germs of typhoid fever.

It would be a strong argument if it could be shown that, on the other hand, in the central district where there have been so few cases of fever no such permeation of sewer air exists. It may be said that this is indeed the case because the houses of the central district are built on lower ground and that there is likely to be a greater escape of sewer air in the higher grounds beyond. But by referring to the map it will be seen that the sewers of the central district have no direct communication with the sewers of the north-eastern infected district and are cut off from the south-eastern infected district by two collecting mains and by the little River Len. The north-eastern district is hedged round by a collector of its own which separates it from the central district—unless, however, some slight connexion is established by means of storm overflows. In any case there is a greater rise from the north-eastern collector to the district it drains than there is from the central collector up to the central part of the town. The same observation may be made for the south-eastern district. Thus it will be seen that the sewers of the three infected districts are more likely to act as ventilators for the main sewers that flow below than the sewers of the central and non-infected district. May not this fact help to account for the extraordinary susceptibility of the inhabitants of the three infected and high districts? May it not likewise explain the immunity which is equally extraordinary and which the inhabitants of the low-lying central district have enjoyed? The fact that these latter have a different water-supply does not, under the circumstances, and as has been already explained, suffice to account for the immunity enjoyed in the central district, as so many of its inhabitants must in their social intercourse have drunk the water of the infected quarters.

Under all these conditions it does seem most essential that the investigations concerning the epidemic should not be limited to the question of the water-supply. It will then be found that, at least in the north-eastern infected district, many houses are jerry built, the domestic drains faulty, and the public sewers defective. The soil being hard, to save time and expense headings were driven through instead of digging trenches. These headways were often not straight, and instead of drilling through rocks the sewers were sometimes conducted over rocks. Under these conditions the sewers were easily blocked, and several have had to be re-laid. Also a part of this north-eastern district is on quarried ground. The hollows have been filled up with quarry rubbish, which if not in itself unhealthy is certainly very unsteady. Consequently, as the sewers do not rest on a firm foundation they are apt to bend and break. The subsoil then gets saturated with sewage, and the gases generated are attracted to the interior of the houses by the higher temperature prevailing within the dwellings. On the western side of the town there are also notable imperfections. Innumerable complaints have been made of the abominable smells emanating from the big sewer which runs down the Queens-road from the asylum and across the northern extremity of the western district. It is this sewer which ultimately reaches the main collector just after it has received the whole of the sewage from the

A MAP OF THE MAIDSTONE EPIDEMIC (for explanation see page 947.)



A MAP OF THE MAIDSTONE EPIDEMIC (For explanation see page 947.)

eastern side of the town. There is a good fall in this sewer, but probably there is not sufficient water.

With regard to domestic sanitation the last report published by the medical officer of health states that there were 6007 inhabited houses in the borough. The sanitary inspector in his report relates that in the course of last year in no less than 200 houses drains were provided or reconstructed, that drains were repaired and cleansed in 436 houses, and water-closets cleansed and repaired in 300 houses. Forty houses were provided with new water-closets and 346 houses were supplied with flushing apparatus. These figures show laudable activity on the part of the sanitary authorities, but as applying to so small a number of houses they likewise indicate how bad the condition of domestic drainage must have been. It is notorious also that any number of houses still remain in urgent need of the sanitary inspector's visit, and that there has been the very greatest difficulty in compelling some landlords to put the drains of their houses in order. With all these facts before them it would seem like an attempt to shirk their responsibilities and to avoid the performance of their obvious duties if the local authorities were to limit their effort in dealing with this epidemic to the simple question of the water-supply.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University College, Liverpool.

THE work of the winter session of the Medical Faculty of University College, Liverpool, commenced on the 4th inst., a feature of which was the omission of the customary introductory address. Profiting by Lord Lister's expected visit to Liverpool to take the leading part in the opening of the new Thompson-Yates Laboratories in May, 1898, the authorities of the medical school have asked him to deliver an address also to the medical students, a request which he has kindly acceded to. The course of lectures arranged by the Sanitary Science Instruction Committee commences on Wednesday, Oct. 6th, with an introductory address by Dr. E. W. Hope, Medical Officer of Health of Liverpool and Professor of Public Health in University College. The chair will be taken by the Right Hon. the Lord Mayor.

Health of Liverpool.

The number of patients under treatment in the city infectious hospitals on the 30th ult. was 412, compared with 358 in the previous week. Of these 17 were suffering from typhus fever, 90 from typhoid fever, and 289 from scarlet fever. Of a total of 276 deaths registered during the week ended Sept. 25th no less than 80 were those of infants under one year, and this in spite of the persistent efforts of the health authorities to instruct parents in the poorer localities in the matter of feeding and hygienic influences.

The Election to the General Medical Council.

At a special meeting of the Liverpool Medical Club, convened to consider the vacancy caused by the resignation of Dr. Rentoul in the General Medical Council, it was decided to support Mr. Victor Horsley's candidature. Mr. Horsley has accepted an invitation to explain his views to the members at the club-rooms on Wednesday evening, Oct. 6th. He is also to address the members of the Medical Institution on Thursday, the 7th inst. Sir Walter Foster was also to have addressed a meeting at the Medical Institution this week, but it appears that the engagement has been cancelled.

Liverpool Diamond Jubilee Commemoration.

The final stage of the Liverpool Diamond Jubilee Commemoration Scheme was enacted yesterday at the Town Hall, when the subscribers to the fund met under the presidency of the Lord Mayor to take into consideration the means of applying the fund, and to appoint a permanent committee to carry out the work. The fund has realised £23,472 19*s.* 2*d.*, and will be under the management of a committee of twenty-six members. Six gentlemen were chosen at the meeting to represent the subscribers to the fund; the Nurses Training School and Home will also have six representatives; the Royal Infirmary, the Royal Southern Hospital, the Northern Hospital, the Hospital Sunday and Saturday Committees, and the lady-superintendents of the existing districts will each be represented by two members. There are also to be two secretaries and treasurers, and the chairman of the Joint Committee will be the Lord Mayor for the time being. The institution will bear the name of "The Queen Victoria District Nursing Institution of the City of Liverpool." Mr. William Rathbone's proposals which were adopted at the meeting, consisted of the division of the city into districts, the number and area of which will be matter for further consideration, though the standard of nursing should be that of the present Liverpool District Nursing Association and the Queen Victoria Jubilee Institute, London. To enable the scheme to be carried out on a comprehensive basis, Mr. Rathbone suggested a plan of amalgamation with the present Nursing Institution and of coöperation with the hospitals. He proposed that the Royal Infirmary and the present Nursing Institution should be asked to transfer to the new institution (1) the four district homes now used by them; (2) the endowment of £10,000 made by Mr. Henry Tate and the Roger Lyon Jones Fund; (3) subscriptions and donations specially given for district nursing; and (4) the contributions from the Hospital Sunday and Saturday Funds. The lady-superintendents of districts are to be at the same time asked to continue their services under the new institution. The David Lewis trustees having agreed to build a central home and offices, and possibly two other district homes if required, the commemoration fund, together with the funds and income transferred from the existing institution should be appropriated as an endowment for the maintenance of the new institution and its work. The Northern and Royal Southern Hospitals are also requested to join in the supply of a certain number of trained nurses to be paid by the new institution. The Lord Mayor eulogised the help he had received from Mr. Rathbone in maturing and bringing the scheme to a successful termination.

Percentages of Lunacy in the Liverpool Unions.

Attention was drawn at the recent meetings of the Toxteth and West Derby guardians to Mr. H. Jenner-Fust's statistics relating to pauper lunatics. In the West Derby Union the proportions were 1 in 332; in the township of Toxteth-park they were 1 in 423 of the population; in the parish of Liverpool 1 in 208. The proportions for Lancashire were 1 in 448; whilst those of England and Wales stood at 1 in 410. The high percentage in the parish of Liverpool was accounted for by a guardian who pointed out that patients came to Liverpool from all parts of the world and were landed in that parish and in the adjoining unions.

Oct. 5th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Annual Dinner of Old Students of the University of Durham College of Medicine at Newcastle-upon-Tyne.

THIS dinner took place at the County Hotel on Oct. 1st at 7 P.M. The chair was occupied by Dr. H. E. Armstrong. There was a good attendance of medical men, several coming long distances to be present at this annual *réunion*.

Appointment of Resident Medical Officer at the Newcastle-upon-Tyne Dispensary.

Mr. W. Hardcastle, the son of Mr. Nicholas Hardcastle, a well-known medical practitioner residing in Newcastle-upon-Tyne, has just been appointed to the responsible post of resident medical officer at the Newcastle-upon-Tyne Dispensary. Mr. W. Hardcastle distinguished himself at Epsom College and at Charing-cross Hospital, and will be warmly welcomed in his new office.

Sad death of Mr. Robert Smith.

Much sympathy is felt with Dr. Smith, of the Sedgefield Asylum, and with his family at the sad death of his son, Mr. Robert Smith, the medical superintendent of Dunston Private Asylum. It appears that Mr. Smith had been suffering from fistula in ano, for the treatment of which he entered the hospital at Stockton-upon-Tees as a private patient. On Sunday last chloroform was administered to him and before the operation was commenced Mr. Smith expired.

PARIS

(FROM OUR OWN CORRESPONDENT.)

Anti-leprous Serum.

AT a recent meeting of the Academy of Medicine M. Hallopeau read a communication upon the treatment of leprosy by hypodermic injections of the serum prepared after the manner of Dr. Carrasquilla. M. Hallopeau's conclusions are not altogether favourable. He points out that the therapeutics of leprosy are in need of much further elucidation, for it is well known that this disease advances by successive exacerbations which are followed by periods often lasting for a considerable time of spontaneous amelioration and retrogression of the disease so marked as to simulate cure. If any drug is given during the time of exacerbation the cessation of acute symptoms which follows is very likely to be attributed to this drug, although the same result would have followed without the intervention of anything at all, and if, on the other hand, treatment is begun during a period of retrogression it is very easy, although quite wrong, to attribute the continuance of the amelioration which follows to the influence of the treatment rather than to the fact that such periods of amelioration almost always follow and continue for some time after an acute stage. A method of treatment which was really curative would be marked by the appearance of the retrogressive stages at shorter intervals, by making these more complete, and by preventing the occurrence of the crises. The anti-leprous serum prepared and reported on by Dr. Carrasquilla does not satisfy these requirements. It is made by injecting horses with serum from the blood obtained by bleeding a leper. To take this point first, there is no proof that this human serum contains the specific leprosy microbe, and, again, the blood not being taken from the horses with strict antiseptic precautions always contains a multitude of organisms unconnected with leprosy. Nevertheless, it is generally well borne and seldom provokes any but slight reactions both local and general. As to its action on leprosy this appears to be but slight, the tubercular manifestations persist even after its use for a long time, and despite the assertions of its introducer it does not prevent new crises appearing. The periods of retrogression which appeared in lepers treated by this method in the hospital of St. Louis did not in any way exceed those which occur spontaneously after a crisis. An anti-leprous serum could more probably be prepared by injecting into some animal the lepra bacillus. It is proposed to continue investigations into the serum therapeutics of leprosy despite the many difficulties which surround the subject, not the least of which is the fact that leprosy cannot be cultivated in animals.

The Action against a Medical Man.

Dr. Laporte has been set at liberty conditionally owing to the persistent representations of the Syndicate of Medical men of the Department of the Seine. The judge has expressed a wish to be supplied with the full report of the experts who consider the matter to be a case of "homicide by imprudence, but attended with hardly any responsibility." The syndicate has given bail for 2000 francs, and Dr. Laporte has gone to stay at the house of his brother-in-law, where he will be out of the way of the reporters, who have on this account become much less sympathetic. The trial will take place in about three weeks. At the commencement of the legal proceedings, which took origin in an information laid by the resident medical officers at the Tenon Hospital, where the patient was taken after the operation by Dr. Laporte and where she died two days later, the committee of the syndicate sent a letter to the President of the Surgical Society and to the President of the Society of Hospital Medical Officers. In this letter, which was couched in very moderate though definite terms, the committee begged the "Chef de Service" to point out to the resident medical officers that in the interest of the profession great prudence was necessary with regard to the terms in which they referred to the treatment adopted by the outside practitioners in the case of patients before their admission to the hospital. The opinion of the resident medical officers was said to be almost always unfair because they ignore the surroundings of the patients previously to admission, and such opinion has the most deplorable effect, not only on the patient, but also on outsiders, for they induce the relatives of the patient to make representations which the magistrates are only too glad to listen to, and the scandal affects the entire profession. All the men in private practice approve of the terms of this letter, which is intended to bring about a remedy for a really crying abuse. On the other hand, a municipal councillor is going to demand that every police station shall provide a case containing all the instruments necessary for operations of urgency, and in particular those which have to do with obstetric operations. The councillor is going to ask for a vote of 25,000 francs. As there are eighty police stations in Paris it is very unlikely that for this sum either enough instruments will be provided or that those which are will be of the best quality.

Anniversary of the Death of Pasteur.

An impressive celebration was held in the Pasteur Institute in the Rue Dutot at 3 P.M. on Oct. 3rd, the occasion being the second anniversary of the death of M. Louis Pasteur. The entire staff of the institute and of the establishment at Garches assembled at the tomb in the crypt of the institute and laid on it a wreath of flowers from the gardens at Garches, where the horses used for the production of anti-toxin serum are stabled. In the morning the Pasteur family, who are at present in the Jura, attended Divine service in the Church of Arbois, the native place of the lamented deceased. M. Duclaux and Dr. Roux, who are also at Arbois, will return to Paris this week, and a meeting of the committee for the Pasteur monument will then be held. The amount on the subscription list, which will thereupon be closed, is at present upwards of 300,000 francs (£12,000).

The late Professor Verneuil.

A bust of Professor Verneuil, provided by those interested in the seaside homes for phthisical patients and executed by M. Salières, was unveiled on Oct. 3rd at La Baule (Loire Inférieure), the small town where Professor Verneuil was born. He was one of the first to recommend the treatment of chronic tuberculosis, and especially of surgical tuberculosis, by removing the patients from the general hospitals, which he rightly considered to be incubators for the cultivation of Koch's bacillus, and dispersing them in special sanatoria near the sea. He was the founder of this system of seaside hospitals, to which it should be mentioned that the medical profession very liberally subscribed, and the whole of the latter part of his career was devoted solely to its organisation. Professor Le Dentu presided at the unveiling of the bust and delivered an admirable address on Professor Verneuil's life and work, the proceedings terminating with a banquet at the Hôpital Mauspha.

Oct. 4th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

A Poet's Advice to Medical Students.

AT a time when so much wise counsel is being given to "the brave young British soul" (as Carlyle called him) on the threshold of nature-study and its application to the healing art it may not be superfluous to add the advice of one of Italy's humanest and strongest poets, whose lyric faculty has won for him the name of the "Italian Heine." Not book-learning, he warns the student, will make a man of him, although it enriches him intellectually. He must interview nature face to face, he must keep in touch with living reality, if he is to act as well as speculate and to leave his personal imprint for good on the contemporary world. The mere "arm-chair scholar," for all his wealth of knowledge and facility of discourse, is but a poor performer when he comes out into the open to give practical effect to what he knows—nowhere poorer or more "ineffectual" (to use Carlyle's favourite word) than in grappling with disease at the bedside. But let us hear Giuseppe Giusti :—

"Bevi lo scibile
Tomo per tomo,
Sarai chiarissimo
Senza esser uomo.
Se in casa eserciti
Soltanto il passo,
Quand' esci sdruccioli
Sul primo sasso.
Dal fare al dire
Oh! v'è che ire!"

(You may drink in the knowable from volume after volume; you will gain the height of celebrity without being a man.

If only within doors you try your paces, when you go abroad you stumble over the first stone. Between doing and discoursing there is, oh! such a journey.) Wise words these when the tendency is to "read up" the literature of the subject rather than to "look up" the facts as they are found in nature. "You cannot be too much in the hospital," "you cannot be too familiar with the aspect of disease," were admonitions to the commencing student which Syme and Hughes Bennett (two of the best teachers of the Edinburgh school) were never tired of repeating. "Disease has a language of its own," said another clinician of the same seat of learning; "its expressions, *φωνᾶντα συνετοῖσι*, must be interpreted aright if you are to encounter it on equal terms." So said Thomas Laycock when insisting on the value of that "physiognomic diagnosis" of which the typical master was the "English Hippocrates," Thomas Sydenham. "A great physician" is not only "a great artist," he is also "a great moral force," testing the speculation of the study by the touchstone of the consulting-room and inspiring confidence by his habit of "getting at the root of things." As man of thought and as man of action he fulfils the twofold part described so well by Goethe:—

"Es bildet ein Talent sich in der Stille;
Sich ein Charakter in dem Strom der Welt."

(A talent moulds itself in tranquility; a character in the stream of the world). By no nationality, it may be said with safety, has this ideal combination been exemplified to better purpose than by the British—a fact attested by the more candid, as well as competent, observers of continental Europe; a fact to be remembered and laid to heart by every young aspirant to the medical career in the English-speaking world.

Professor Sanarelli and the Yellow Fever Bacillus.

I hear from Genoa that Professor Sanarelli, director of the Istituto d'Igiene at Montevideo, is shortly expected at that port, whence he will start on a series of visits to our leading medical schools, at each of which he will deliver a lecture on his discovery of the bacillus of yellow fever and set forth his maturer recommendations for its prophylaxis as well as clinical treatment. The recent outbreak of the disease in latitudes hitherto supposed to be proof against its inroads lends a practical interest to this aspect of the subject which is sure to be reflected in the discussions which, I understand, he cordially invites.

The Health of Leo XIII.

The few who on Sunday last were privileged to be present at the mass which His Holiness celebrated in the "Capella Interna" (inner chapel) of his private apartments were struck with the strength of voice and general aspect of health he displayed. In the afternoon of the same day, profiting by the change to genial warmth after the recent fall of temperature, he descended to the Vatican Gardens and enjoyed their unique amenities for about an hour and a half. Since then he has availed himself of the continued fine weather to spend many hours of each day in that delightful retreat, the Palazzina della Torre di Leone IV., already described in THE LANCET.

Oct. 3rd.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

Unveiling of the Pirogof Statue in Moscow.

"To the Memory of Pirogof" is the title of a small pamphlet which has just been published in Moscow under the editorship of Professor Diakonof. This little work contains a complete record of the proceedings in connexion with the erection and unveiling of the statue to the great surgeon which now adorns the space in front of the cliniques in Moscow. The statue was unveiled with considerable ceremony on Aug. 3rd (15th) of the present year. It was originally intended and arranged to perform this function during the week of the International Medical Congress so as to enable foreigners to be present, and it is, perhaps, rather regrettable that this intention was not adhered to. The occasion was an interesting one, and many foreign medical men would have been glad to have the opportunity to assist in doing honour to the greatest of Russian surgeons. Probably it was found impossible to fit this in with the many other arrangements made for the Congress week, and consequently the Sunday preceding the opening of the Congress was selected for the ceremony. The statue is a bronze seated figure of heroic size, on a pedestal of the same material. It was the last great work of the sculptor, Mr. W. Sherwood, a Russian artist and Academician of English descent, whose death within the last few weeks has left a vacancy in the roll of members of the Russian Academy of Arts. Of the ceremony of unveiling the monument and presenting it in permanence to the University of Moscow little need be said. It commenced with a *panikhidi* or memorial service for the dead at the base of the statue, followed by the formal presentation of the statue to, and its acceptance by, the University authorities. A vast number of wreaths were laid on the base of the monument and this completed the first part of the ceremony. The second part was held after a short interval in one of the large theatres of the clinique. The meeting here was under the presidency of Professor Diakonof, who holds the chair of operative surgery in the University of Moscow. In the many laudatory orations which were here spoken in memory of Pirogof, and which now appear in print in the pamphlet just issued, a very full and clear account is contained of the life-work of this unquestionably great surgeon and administrator. It is for his services to the art and craft of surgery that he is probably best known outside Russia. In his own country he is quite as much remembered for what he did in the cause of education during his brief tenure of office under the Ministry of Education and by his powerful writings as for his work as a surgeon. Nor were these the only services he rendered to the cause of progress. Space, however, does not permit of their recapitulation here; and it must suffice to say that, when all allowance is made for the glamour of the occasion upon which the speeches now printed were delivered, and for the rhetorical hyperbole not infrequent on such occasions (to be quite just, the present collection of speeches do not err excessively in this direction), these addresses will remain as a worthy tribute to the memory of a man of whom Russia is rightly proud.

The Effect of Smoking on the Health.

The vice of smoking (if it be a vice) is thought to be rather decreasing in Russia. Certainly there is a very general impression that the number of non-smokers now met with is considerably greater than it was a few years ago, when smoking was practically universal among the so-called upper classes. Dr. Mendelssohn[1] publishes a number of observations which he made a few years ago upon the effect of smoking on the health of students, and the statistics he gives are not without interest. In 1890 a circular form was sent to every student of the Army Medical Academy in St. Petersburg and in the Technological Institute containing a large number of questions which the students were asked to answer, and 1071 replies were received. Among the medical students 54·66 were found to be habitual smokers, and among the technological students only 47·18. Juvenile smoking must be common in Russia if we are to accept the table of returns of the age at which these students began to smoke. Two were returned as beginning the habit at the age of six years, 3 at the age of nine years, 11 at the age of ten years, 5 at the age of eleven years, 27 at the age of twelve years, and so on, the maximum being reached at the age of seventeen years. The average number of cigarettes smoked daily by a medical student was 19·64 and by a technological student 22·88 (Russian cigarettes are more than half paper mouthpiece and therefore much smaller than English cigarettes). But the most interesting figures are those which deal with the effect of smoking on the health. Of the smokers 16·09 per cent. were found to have some affection of the respiratory tract, while only 10·69 per cent. of the non-smokers were so affected. In regard to diseases of the alimentary tract the figures were respectively 11·88 and 9·92 per cent., and of both tracts combined 8·77 and 3·22 per cent. In every case the smokers gave the higher percentage. Turning to the effect of the age at which the habit was begun it was found that those who had acquired the habit before the age of sixteen years gave higher percentages of illness (19·05, 13·09, and 13·69 in the above three groups) than those who began at or after that age (14·77, 11·34, and

[1] The Journal of the Russian National Health Society, September, 1897.

6·6 respectively). Another table shows the deleterious effect of inhaling the smoke when smoking; inhalers gave percentages of illness of 16·14, 12·2, and 9·25 respectively, as compared with 15·38, 7·69, and 2·56 among those who did not inhale. Some other tables complete the article, which closes with some *pia desiderata*, more particularly as to the need of instructing the youth of the day in the harmfulness of smoking. There is of course nothing new in the figures or in the conclusion they point to, but they serve to emphasise the long since admitted fact that smoking is to a certain extent a harmful habit, especially in the young.

A Green Cross Society.

In 1891 a movement was set on foot in St. Petersburg for the formation of a society having for its object the organising of "first aid" in case of accidents, and to be called the "Green Cross Society." No practical results, however, followed the suggestion until the present year, when a committee was formed and a constitution of the society was drawn up which only awaits ratification. The need for some such organisation is shown by some statistics collected by M. Chernik, the originator of the movement, from which it appears that in the twelve years 1881–93 there were in St. Petersburg alone 46 618 registered accidents, and that the number is increasing yearly.

Sept. 23rd (Oct. 5th).

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Infectious Disease in Melbourne.

THE health officer of the city of Melbourne (Dr. James Jamieson) has submitted a report on the prevalence of infectious disease in the city since 1891, the year that notification came into operation. The comparisons are made for the first half of each year 1892 to 1897, and include all cases reported, though many on inquiry proved not to have originated in the city. The figures are put into the form of tables showing the number of cases reported in each of the months January to June for six years.

Typhoid Fever.

	1892.	1893.	1894.	1895.	1896.	1897.
January	23	10	21	21	41	27
February	39	29	18	33	39	19
March	40	29	31	25	33	20
April	30	27	24	19	24	8
May	18	23	14	8	17	18
June	11	8	5	7	7	10
Total for six months	161	126	113	113	161	102

Diphtheria.

	1892.	1893.	1894.	1895.	1896.	1897.
January	0	4	4	2	3	10
February	5	0	5	3	10	12
March	4	1	6	12	7	7
April	5	2	4	4	8	10
May	6	3	1	6	10	14
June	6	3	3	4	4	23
Total for six months	26	13	23	31	42	76

Scarlet Fever.

	1892.	1893.	1894.	1895.	1896.	1897.
January	2	5	2	5	3	7
February	5	8	1	1	12	17
March	6	3	5	2	4	24
April	6	6	4	2	1	20
May	10	8	8	5	7	22
June	4	2	3	2	20	19
Total for six months	33	32	23	17	47	109

It will be noted that typhoid fever showed less prevalence in the first half of this year than in any other of the period, and less probably than in any year since records have been kept. Cases of that disease are fairly, if not amply, provided for in the general hospitals. Diphtheria has become steadily more prevalent and fatal since 1893, when it had reached a low level. The epidemic has not attained the dimensions of the great outbreak of 1889–90, but hardly seems yet to have reached its climax. Scarlet fever has also been much more prevalent in 1897 than in any other year of the period, though there is some reason to believe that there will not be any further considerable increase. Happily, the epidemic has been a mild one and the fatality comparatively small. For these two diseases the present hospital accommodation is quite inadequate, the only provision being a few beds at the Melbourne Hospital. Until provision is made more in accordance with the needs of a large city like Melbourne the task of checking outbreaks of these diseases is a hopeless one.

The Queen's Jubilee Hospital for Consumption in New South Wales.

As previously stated, it was decided to establish hospitals for phthisical patients in New South Wales as a permanent memorial of the Queen's reign. Considerable difference of opinion exists, however, as to the character of the hospitals to be provided. Dr. Sydney Jones champions the view that country sanatoria should be first built and a receiving house in Sydney (and a resolution to that effect was carried at a meeting of the profession held on June 11th). Dr. W. C. Wilkinson is the chief upholder of the other view that a special hospital for phthisical patients should be built near the city. At the last meeting of the New South Wales Branch of the British Medical Association the questions were discussed again, and Dr. Wilkinson's proposals were carried. His view is that our observations and treatment of phthisis should be carried out on scientific lines, and a scientific station established where the various forms and stages of the disease can be scientifically discriminated and classified. From this as a base the scheme, in ever-widening circles, as funds were provided, would include other hospitals and homes in the country. The special hospital would afford the most efficient means of prophylaxis by affording the most accommodation for the poor and removing the sources of infection from the homes of the poor. In the early stages also much good could be done in such an institution by the use of tuberculin. He did not deny the value of climatic treatment. It is indispensable in many conditions, especially when streptococcal infections are present; but the idea of cottage homes, however specious at first sight, was impracticable; owing to the great expense entailed relatively few would be benefited by the large outlay, therefore he advocated the erection of a special hospital first and the continuance and enlargement of the present Home for Consumptives at Thirlmere.

A Medical Man Convicted of Administering a Noxious Substance with Illegal Intent.

On Aug. 23rd last a medical practitioner named George Joseph Walsh, of Exhibition-street, Melbourne, was convicted at the Criminal Court of administering a noxious substance to Lucy Jessup with illegal intent. From the evidence of Jessup it appeared that fearing she was pregnant she consulted Walsh, who confirmed her suspicions and gave her some medicine and pills to bring on a miscarriage. Two days afterwards she aborted, and the family physician, Dr. J. H. Williams, was called in, but declined to attend, and told them to communicate with the police. Walsh then saw her and secured the unused medicine. At the trial the defence was a denial of the charge.

Death of Dr. Youl.

One by one the older members of the profession in Australia are passing beyond that bourne whence no traveller returns, and on Aug. 5th died one of the best known men in Melbourne, Dr. Richard Youl, who for forty-four years had filled the post of city coroner. He was of marked personality and his name was a household word to all sections of the community. He was a man of great natural shrewdness, with a keen and often caustic wit. His faculty for discriminating between true and false evidence was remarkable, and his charges to juries were an admixture of humour, cynicism, and quaint philosophy, but were always logical and showed a profound knowledge of human nature. He frequently interlarded the evidence of witnesses with remarkable comments, and his peculiar idiosyncrasies and singularities of thought and utterance made him a striking figure in public life. During his long period of office he held over 12,000 inquests and applied himself enthusiastically to his duties, especially studying the causes that contributed to accidental deaths. He insisted on a post-mortem examination being held in every case, and it is largely due to his exertions that much greater care is now taken to prevent accidents to workmen and that the sanitary condition of the hospitals and similar institutions has been so much improved. It was almost entirely due to his efforts that the Infant Life Protection Act was passed, and it was on his suggestion that the Victorian Infant Asylum was founded. Besides holding the post of coroner Dr. Youl was President of the

Medical Board, and was for a long time President of the Board of Health until that body was re-constituted. He was also an official visitor to the lunatic asylums and chairman of the Police Medical Board. He remained also in the practice of his profession and was regarded as a very sound physician, though his official duties prevented him from engaging in much practice; but his medical services were always at the disposal of the poor without fee. In private life he was highly esteemed, being a brilliant and witty conversationalist, and though somewhat abrupt and satirical he was at heart extremely kindly and charitable. For many years he was a martyr to gout, so that his life was burdensome, but he worked on with indomitable courage and literally died in harness, having held three inquests only two days before his death, which occurred from heart failure and bronchitis in his seventy-first year. Truly it might be said of him—*Labor vita vitæ est.*

Aug. 30th.

Obituary.

CHARLES SMART ROY, M.A. CANTAB., M.D. EDIN., F.R.S.,

PROFESSOR OF PATHOLOGY IN THE UNIVERSITY OF CAMBRIDGE.

ALTHOUGH Professor Roy had been in failing health and unable to do any work for the last two years, the sad news of his death at the premature age of forty-three years, which occurred suddenly in an epileptic fit on the evening of Monday, Oct. 4th, will come as a surprise to his past pupils and many friends who only knew that he had been obliged to stand aside from active work. The complete nervous breakdown which culminated two years ago and necessitated his giving up his professional duties and the appointment of a deputy professor, Dr. A. A. Kanthack, had been for some time foreshadowed by attacks of ill-health, and his mental activity had been greatly impaired thereby.

Born in 1854 at Arbroath his early education, begun at St. Andrews, was continued at Edinburgh University, where he took the M.D. degree in 1878 after having held the post of resident physician at the Edinburgh Royal Infirmary in 1875. After this appointment he worked for a time at the Brown Institution on the pathological anatomy of epizootic pleuro-pneumonia. He then acted as surgeon to the Turkish troops in the Servian War, and it is to be feared that his ultimate breakdown and premature death were the indirect result of mental and bodily strain experienced during this campaign. On his return to England he resumed work at the Brown Institution for a time, but soon went to the Continent, and for about a year worked at physiology under the late Professor du Bois Reymond and at pathology under Professor Virchow, in Berlin. During the next year he acted as assistant at the physiological institute of the University of Strassburg and then went to work at Leipzig under Professor Cohnheim, whose influence made itself felt on his future life's work. During this time he had begun publishing a series of papers on the heart, spleen, and kidneys, and demonstrated by means of the oncometer the variations in volume of the two latter organs; in the case of the spleen he pointed out the rhythmic contractions that normally occur, and on the kidneys he studied the effects, as regards the bulk of the organ and the excretion of urine, produced by introducing water, urea, and drugs into the blood of the renal arteries.

In 1880 he was appointed as the first George Henry Lewes student in physiology, and did original work under Professor Michael Foster in Cambridge. After investigating for the Argentine Republic an epidemic which was shown to be anthrax, he was in 1882 appointed Professor Superintendent of the Brown Institution. In 1884, being then thirty years of age, he was elected to the Fellowship of the Royal Society and to the newly made Professorship of Pathology in the University of Cambridge, entering on his duties in October of that year. He became attached to Trinity College, and had rooms in Neville's-court until his marriage in 1887 to Violet, daughter of the late Sir G. E. Paget, Regius Professor of Physic. Before this he had, together with Dr. C. S. Sherrington, now Holt Professor of Physiology in University College, Liverpool, investigated an outbreak of cholera in Spain.

As a pathologist Dr. Roy devoted himself chiefly to the experimental part of the subject and especially to the investigation of the disturbance of function; pathological physiology, in fact, was the line of research to which, as Cohnheim's pupil and follower, he was most attracted. He was, as has been already seen, a physiologist first and only became a pathologist secondarily, and perhaps as a result the subjects of morbid anatomy and histology hardly received from him the amount of attention and research that would be required from an ordinary teacher of pathology in a hospital school. His aim, however, was to carry on pathology to the same extent and along much the same lines as those on which the sister science physiology had been advanced. There can be no doubt that he was extraordinarily well fitted for this object. In the first place he had a genius for the invention of apparatus for recording graphically the results of experimental research; in connexion with his favourite subject, the vascular system, there are quite a number of instruments for registering the arterial and endocardial pressure, the expansion of the heart and vessels, and so forth which remain as memorials of his ingenuity and inventive power. His powers of mechanical invention and his bias for problems dealing with physical questions can be traced, not only in his own researches, but in those of his pupils and demonstrators. In the second place, he was a skilful and accomplished operator; the rapidity and accuracy with which he made the dissection necessary in experiments on animals were very striking.

As a teacher he appealed rather to the advanced students and to those anxious to do some original work on their own account than to the rank and file of pass men. It was, in fact, one of his ambitions to form around him a school of workers like that which centred around Ludwig, and to have a steady stream of work issuing from his laboratory. Although his earlier years in the professorial chair had been hampered by the facts that adequate laboratories and thoroughly appropriate fittings were not forthcoming until about 1889 and although the later part of his term of office was interrupted by failing health, the list of researches and papers that he directed or in part carried out is a long one. Among his demonstrators are many whose names are well known and who are now holding responsible teaching posts, while the John Lucas Walker students (Hunter, Adami, Kanthack, Lorrain Smith, Westbrook, and Cobbett) worked under his direction. Most of his own work at this time was done conjointly and no mention of it would be complete without a reference to his researches into cardiac mechanics and experimental disturbance of the circulation published in conjunction with Dr. Adami, who for three years acted as his demonstrator and only left Cambridge to take up the chair of pathology at Montreal. Their work on the papillary muscles, on the relation between the heart-beat and the pulse, and on strain as a cause of valvular disease has a most important bearing on the problems of clinical medicine. He originated, planned the outlines, and unselfishly helped his pupils in researches on endocardial pressure, the specific gravity of the blood, the pathology of shock, the production of lymph, and other subjects. Had his health and life been spared he would no doubt have accomplished his desire of bringing out an exhaustive treatise on cardiac physiology and pathology. As a lecturer his matter was excellent, stimulating and suggestive of original thought and work, and dealing largely with experimental physiological pathology, but his delivery was rather indistinct, too rapid, and therefore somewhat difficult to catch. A rather bluff manner and abrupt address were the outward expressions of a thoroughly sterling and generous nature. Strong in his convictions and forcible, if sometimes impetuous, in his acts, Roy was certainly no courtier, but these very properties made him a generous and steadfast friend to those who knew and trusted him.

Mrs. Roy, who devotedly watched over and nursed her husband during a long and terribly anxious period of failing health and illness, has no children to console her in her bereavement. We are informed that Professor Roy's funeral will take place on Friday, Oct. 8th. The service will be held in Trinity College Chapel at 3 P.M. before the interment at Mill-road Cemetery.

Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the Convocation held on Sept. 25th the following degrees and diploma were conferred:—

Doctor in Medicine.—Wilfred Ernest Alderson, M.B., B.S. Durh.; Walter Alexander Atkinson, M.B., B.S. Durh.; Octavius Beven, M.B., B.S. Durh.; Charles Vincent Dingle, M.B., B.S., B.Hy. Durh. Robert Ayton Dunn, M.B., B.S., B.Hy. Durh.; Harry Harte Gourley, M.B. Durh.; Ferdinand Henry Hulse-Francis, M.B., B.S. Durh.; Arthur Jervis, M.B., B.S. Durh.; Sodeinde Akisiku Leigh-Sodipe, M.B. *(in absentiâ)*; Robert Cecil Leonard, M.B. Durh.; Richard Pearson, M.B., B.S. Durh.; Frederick Robson, M.B., B.S. Durh.; and Charles Rawdon Wood, M.A., M.B., B.S., Durh.

Doctor in Medicine (Practitioners of Fifteen Years' Standing).—Thomas Reuell Atkinson, M.R.C.S., L.S.A.; George Booth, M.R.C.S., L.R.C.P.; Charles Donkin, L.R.C.P., L.F.P.S.; Percy Septimus Jakins, M.R.C.S., L.S.A.; Frederick William Jordan, M.R.C.S., L.R.C.P.; Hugh Pugh Rowlands, M.R.C.S., L.R.C.P., L.S.A.; Charles James Vlieland, M.R.C.S., L.S.A.; and Oliver Withers, M.R.C.S., L.R.C.P.

Bachelor in Medicine (M.B.).—Arthur William Aldridge, M.R.C.S., L.R.C.P., Mason College, Birmingham; Walter Osborne Arnold, Grant Arnott, John David Dodds, Joseph Livingstone Frazer-Hurst, Ernest William Gilroy, Percy Holgate, Albert Adam Hope, James William King, Malcolm Gordon McBean, Norman McCall-Smith, and Walter Augustus Peverley, College of Medicine, Newcastle-upon-Tyne; Arthur Riley, M.R.C.S., L.R.C.P., Westminster Hospital; Charles Salkeld, B.A., and Thomas Owens Scott, M.A., College of Medicine, Newcastle-upon-Tyne; Henry Francis Shea, St. Thomas's Hospital; Gilbert Smith, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Alfred Edward Stevens, St. Thomas's Hospital; John Aston Swindale, Mason College, Birmingham; William Ardendt Hagestadt Waite, Yorkshire College, Leeds; and William Longstaff Wight Walker, College of Medicine, Newcastle-upon-Tyne.

Bachelor in Surgery (B.S.).—Arthur William Al driorne R.C.S. L.R.C.P., Mason College, Birmingham; Walter Osb one Arnold Grant Arnott, John David Dodds, Joseph Livingst Frazer Hurst, Ernest William Gilroy, Percy Holgate, Albert Adam Hope, James William king, Malcolm Gordon McBean, Norman McCall-Smith, and Walter Augustus Peverley, College of Medicine, Newcastle-upon-Tyne; Arthur Riley, M.R.C.S., L.R.C.P., Westminster Hospital; Charles Salkeld, B.A., and Thomas Owens Scott, M.A., College of Medicine, Newcastle-upon-Tyne; Henry Francis Shea, St. Thomas's Hospital; John Aston Swindale, Mason College, Birmingham; William Ardendt Hagesta it Waite, Yorkshire College, Leeds; and William Longstaff Wight Walker, College of Medicine, Newcastle-upon-Tyne.

Bachelor of Hygiene (B Hy.).—William Edmund Harker, M.D., B.S.
Diploma in Public Health (D.P.H.).—George Clement Belcher, M.R.C.S., L.R.C.P.

PRESENTATIONS TO MEDICAL MEN.—Mr. Richard Adams, L.R.C.P. Edin., M.R.C.S. Eng., Medical Superintendent of the Cornwall County Asylum, at Bodmin, gave on the 24th ult., on his retirement from that office, which he had held over forty years, a farewell evening entertainment in the Great Hall of the Institution. Advantage was taken of the occasion to present Mr. Adams with a valuable silver coffee tray as a testimonial of esteem, subscribed for by 157 of the officials, past and present.—Dr. Jas. Wheatley, medical officer of health of the borough of Blackburn, has been the recipient of a clock and barometer. The testimonial bore the following inscription: "Presented to James Wheatley, Esq., M.D., by the inspectors and officials of the Health Department, on the occasion of his marriage as a small token of respect and esteem."—Mr. Robert Laidlaw, M.B. Edin., of Ladybank, Fife, has been presented by the members of the Ladybank Branch of the St. Andrew Ambulance Association, with a gold albert chain, in recognition of services rendered as their lecturer.—Mr. J. P. Bickersteth, the Deputy-Chairman of the London and North-Western Railway Company, on distributing on the 28th ult. the First Aid certificates of the St. John Ambulance Association to the successful members of the staff in the assistant goods manager's and chief passenger superintendent's offices, pointed out the advantage—in fact, the necessity—of a staff of a railway company being acquainted with ambulance work. This had led the directors recently to bring First Aid prominently before the staff all over the company's system and to provide the means whereby all who wished could obtain a practical knowledge of the work. The present opportunity was embraced to present to their gratuitous instructor, Dr. Ramage, a box of microscopic apparatus as a small token of esteem.—At Pontypridd, on Sept. 30th, Mr. Howard Davies, M.R.C.S. Eng., L.S.A., was presented with a silver-mounted riding whip by the members of the St. John Ambulance class in appreciation of his services as honorary lecturer. Mr. Nathan Raw, M.D. Durh., B.S., was on Saturday last, just before his departure from the Dundee Infirmary for his new sphere of labour in the Mill-road Infirmary, Liverpool, the recipient of a present, subscribed for by the nursing staff of the former institution, which consisted of a pair of silver candlesticks and silver inkstands enclosed in a case. On the outside of the lid of the inkstand are engraved Dr. Raw's initials, and inside is the following inscription: "Presented to Nathan Raw, Esq., M.D., B.S., L.S.Sc., F.R.C.S.E., by the nursing staff of the Dundee Royal Infirmary in grateful remembrance of his unfailing courtesy and consideration. October 2nd, 1897."

THE PLAGUE IN BOMBAY PRESIDENCY.—The accounts from Bombay and from different districts of that Presidency are not by any means so satisfactory as could be desired. The epidemic of bubonic plague has been slowly extending itself and seems to be following, more or less, the course of that which visited Hong-Kong. The disease has not disappeared from Bombay, and is even still more prevalent in Poona, Kirkee, and in the Kolabar, Nasik, Satara, and other districts; hence it is thought that, in addition to the disease indigenous to Bombay, it is probably increased by cases being imported into the city. Moreover, the death-rate from fever and other causes in Bombay continues high.

DIPHTHERIA IN LONDON.—In our issue of Aug. 7th we gave a summary of the data respecting diphtheria prevalence and mortality in London during the four-weekly period ended on July 17th, and showed that the total of 1011 notifications exceeded that for any like period since November last. The average weekly yield of cases in July was 253 against 224 in June; and the registered deaths 135 in number against 137 in June, the per case mortality for the respective months being 13·3 and 15·3 per cent., the smaller total of cases in June having been accompanied by a slight excess of registered mortality. But if the data for the July period were thus excessive, those for August, ended on the 14th, were still less satisfactory, the notifications reaching 1111 and the registered deaths 163. The cases notified yielded a weekly average of 278, and whilst all the sanitary districts of London save one were invaded, 6 of them had each upwards of 50, and an aggregate of 397 notifications, as compared with only 20 notifications in all in other 6 districts. The deaths, 163 (a weekly average of 41), exceeding as they did those of the July period, were, despite a higher total of attacks, sufficiently numerous to increase the per case mortality, which became 14·7 per cent. The next succeeding four-weekly period, ended on Sept. 11th, witnessed a decided fall alike in notified attacks and registered deaths. The notifications were 866, or an average of 216 per week. Three sanitary districts returned no cases, and other 4 had each 50 and upwards, and an aggregate of 246. In 6 districts, however, only 10 cases were notified in all. The registered deaths were 117, or 29 weekly, and the per case mortality was 13·5 per cent, approximating to that of the July period. The deaths in the next succeeding week, ending Sept. 11th, were 35, or 6 above the average of the preceding four weeks; and a still greater rise was witnessed in the week ending Sept. 18th, the deaths registered being 45, although the corrected decennial average for the thirty-eighth week of the years 1887-96 was 44. But apart from the fact that the decennial average for any one week is a very fluctuating and unreliable figure, it must be held in mind that the high total of the week last named is almost identical with that average only by reason of the excessive persistence of the disease in fatal form for many years past, the decennial average thus ever growing as the several weeks of each year continue to show heavy mortality data. Going back ten years we find that the decennial average for the particular week now in question was only 17·2; five years later it had grown to 26·4, and now it is 44·4. Hence the fact that the deaths nowadays in any one week only reach the average has become a false factor in determining the potency of the disease. In the week ended Sept. 18th Paddington and Islington had each 4 deaths, and St. Marylebone, St. George-in-the-East, Whitechapel, and Wandsworth 3 deaths each. The admissions were 167, as compared with 131, 140, and 156 in earlier weeks; and on the Saturday 1021 patients were returned as being in hospital on account of diphtheria. In the Outer Ring there were 12 deaths registered from the

disease, 6 being in West Ham, and 3 in Brentford registration districts. Last week's returns show a still further increase in fatality from diphtheria alike in the county and Outer Ring of London.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—The first Broderip Scholarship has been awarded to Mr. H. F. Hine and the second to Mr. G. H. Lucas. The first Entrance Scholarship has been awarded to Mr. Wm. Gillitt and the second to Mr. Rees Phillips.

LONDON HOSPITAL MEDICAL COLLEGE.—The following Entrance Scholarships have been awarded: Price Science Scholarship, £120 Mr. J. Jones; Price Anatomy and Physiology Scholarship, £60, open only to competitors from Oxford or Cambridge, Mr. C. Warren (Oxon.); Science Scholarship, £60. Mr. R. T. Dolbey; science scholarship, £35, Mr. M. T. Williams.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—The first Entrance Scholarship in Natural Science (£150) has been awarded to Mr. W. H. Harwood-Yarred, and the second (of the value of £60) to Mr. Francis H. Whitehead. The University Scholarship (of the value of £50) has been awarded to Mr. Frank Cecil Eve, B.A., of Emmanuel College, Cambridge.

AN AGED PHILANTHROPIST.—Mr. George Müller, the founder of the orphan houses at Ashley Down, Bristol, entered upon his ninety-third year on Sept. 27th, and the anniversary was, as usual, marked by a large number of congratulatory messages from friends and former inmates. There are now upwards of 1700 orphans in the homes, with nearly 200 helpers.

CHARING-CROSS HOSPITAL MEDICAL SCHOOL.—The following Entrance Scholarships have been awarded: The Livingstone Scholarship (100 guineas), to Mr. S. A. Boyd; the Huxley Scholarship (55 guineas), to Mr. W. J. O'Brien, and the Universities' Scholarship (60 guineas), to Mr. W. G. Rogers. Entrance Scholarships have also been awarded to Mr. E. Bayley (60 guineas), Mr. C. L. Lakin (40 guineas), and Mr. G. S. Welham (30 guineas).

WATER-SUPPLY OF THE ISLAND OF PORTLAND.—The scheme of water-supply promoted by the local authority of Portland has received the approval of the Local Government Board. It will supply the Government departments, Admiralty, prison, and the inhabitants. The source of the supply is situated in the chalk hills at Upwey, between Weymouth and Dorchester, and the water will be conveyed by pipes to Portland. The work will be commenced immediately.

DUNDEE ROYAL INFIRMARY.—Dr. Nathan Raw, the medical superintendent of Dundee Royal Infirmary, having been appointed superintendent of the Mill-road Infirmary at Liverpool, was entertained at dinner at the Queen's Hotel, Dundee, on Sept. 28th. Lord Provost McGrady presided, and there was a numerous company. The chairman, in proposing Dr. Raw's health, made very complimentary references to his administrative ability, saying that he came to the Dundee Infirmary from Bolton in 1893, and that those who were connected with the institution, especially the directors, regarded the period of over four years which he had spent there as one of the most successful chapters in its history. Dr. RAW, in replying, said that at the time of his appointment he was a complete stranger to Dundee, but he now seemed to know everybody, and would always cherish the recollection of the kindness which had been shown him.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ARMITAGE, E., L.R.C.P., L.R.C.S.Ed., L.F.P.S.Glasg., has been re-appointed Medical Officer of Health by the Grimsby Rural District Council.

BRIERLEY, JAS., has been appointed Analyst for the Borough of Newbury.

CLOTHIER, H., M.D.Lond., L.R.C.P., M.R.C.S., has been re-appointed Medical Officer of Health by the Hornsey Urban District Council.

CORBETT-SINGLETON, F. E., L.R.C.P. & S.Edin., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

CRAN, R. D., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the Salford Sanitary District of the Salford Union.

DENT, H. C., M.R.C.S., has been appointed a Medical Officer by the Erpingham Guardians and Council.

FARRAR, J., M.D.St. And., L.R.C.P., L.R.C.S.Edin., has been appointed Medical Officer for the Gainsborough Sanitary District of the Gainsborough Union.

GRAHAM, D. J., M.B., C.M.Edin., has been appointed Assistant Medical Officer to the City Hospital for Infectious Diseases, Edinburgh.

GRANT, F. W., M.D., B.Sc.Edin., has been appointed Medical Officer of Health for Lossiemouth and Branderburgh.

HARRIS-LISTON, T., M.R.C.S., has been appointed Assistant Medical Officer of the Lawn Hospital, Lincoln.

HODGES, G. W. C., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer for the No. 2 Sanitary District of the Bridgnorth Union.

HOOTON, W. A., L.R.C.P.Lond., M.R.C.S., L.D.S.Eng., has been appointed Dental Surgeon to the Manchester Royal Infirmary, vice G. W. Smith, resigned.

HOUSLEY, J., M.D.St. And., M.R.C.S., D.P.H.Glasg., has been re-appointed Medical Officer of Health by the Retford Urban District Council.

JACKSON, D. H., M.A., B.Sc., Ph.D., has been appointed Junior Demonstrator in Chemistry at University College, Bristol.

LE PELLEY, AMELIA M., M.B.Lond., has been appointed House Surgeon to the Belgrave Hospital for Children, London, S.W.

MACKAY, H. J., M.D.Edin., has been re-appointed an Honorary Medical Officer for the Devizes Cottage Hospital.

MCCARDIE, W. J., B.A., M.B., B.C.Cantab., has been appointed an Anæsthetist to the General Hospital, Birmingham.

MONTGOMERY, WM. P., M.B., B.S.Lond., F.R.C.S.Eng., L.R.C.P.Lond., has been appointed Resident Surgical Officer to the Manchester Royal Infirmary.

MOULD, P. G., L.R.C.P.Lond., M.R.C.S., has been appointed a Third Assistant Medical Officer to the Cheadle Asylum.

MUSGRAVE, C. B. T., M.D.Lond., L.R.C.P., M.R.C.S., has been appointed a Medical Officer by the Erpingham Guardians and Council.

OLIPHANT, FRANK, M.B.Edin., has been appointed House Surgeon to the Kidderminster Infirmary.

OWEN, ARTHUR DUNLEY, B.Sc., M.R.C.S., L.R.C.P.Lond., has been appointed District Surgeon and Surgeon to the B.S.A. Police at Melsetter, Rhodesia, South Africa.

PAGET, CHAS E., L.R.C.P.Lond., M.R.C.S., D.P.H., has been appointed Medical Officer of Health for the County by the Northamptonshire County Council.

PARTRIDGE, S., M.D.Edin., L.R.C.P., L.R.C.S.Edin., L.F.P.S.Glasg., has been appointed Medical Officer of Health by the Darlaston Urban District Council.

PEARSON, H. A., L.R.C.P.Lond., L.R.C.P., L.R.C.S.Edin., has been appointed Medical Officer for the No. 5 Sanitary District of the Blandford Union.

PORRITT, ERNEST E., M.B., C.M.Edin., has been appointed Assistant Medical Officer to the City Hospital for Infectious Diseases, Edinburgh.

PROSSER, T. G., M.R.C.S., has been re-appointed Medical Officer for the Rockfield Sanitary District of the Monmouth Union.

RABY, L., M.D.Durh., M.R.C.S., has been re-appointed an Honorary Medical Officer for the Devizes Cottage Hospital.

ROSCOE, H., L.R.C.P.Lond., M.R.C.S., has been appointed a Resident Medical Assistant to the Dyffryn Aled Asylum, near Colwyn Bay.

TRUMPER, O. B., M.B., Ch.B.Vict., has been appointed Medical Officer for the Market Rasen No. 1 and the Tealby Sanitary District.

SELKIRK, J., M.A., M.B., C.M.Glasg., has been appointed Medical Officer for the Boston Spa Sanitary District of the Wetherby Union.

SHIRREFFS, WILLIAM, M.B., C.M.Aberd., has been appointed Medical Attendant for the Water, Sewage, and Roads Department of the Aberdeen Town Council, vice J. A. R. Glennie, resigned.

SLADER, G. W. B., L.R.C.S.Irel., has been appointed Medical Officer for the Blyton Sanitary District and the Workhouse of the Gainsborough Union.

SMITH, R. R., L.R.C.P., L.R.C.S.Irel., has been appointed Assistant Medical Officer for the Walton Workhouse of the West Derby Union.

SUTCLIFFE, J., L.R.C.P.Edin., M.R.C.S., has been appointed an Assistant Medical Officer to the Cheadle Asylum.

THOMSON, G. D., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer by the Ruskington (Lincoln) Urban District Council.

TROW, A. V., M.B., C.M.Aberd., has been re-appointed an Honorary Surgeon to the Devizes Cottage Hospital.

TUXFORD, REGINALD, M.R.C.S.Eng., L.R.C.P.Lond., has been appointed Resident Medical Officer to the Guest Hospital, Dudley, vice T. E. Hickman, resigned.

WAYLEN, G. S. A., L.R.C.P.Lond., M.R.C.S., has been re-appointed an Honorary Medical Officer for the Devizes Cottage Hospital.

WILLIAMS, J. T. C., L.R.C.P.Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Whiteland District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—Out-patient Surgeon. Applications to the Honorary Secretary, Beechenhurst, Selly-hill, Birmingham.

CORPORATION OF CALCUTTA, Bengal, India.—Health Officer for the town of Calcutta for five years. Salary not less than 1200 rupees and not more than 1500 rupees a month. The appointment is subject to specified conditions. Applications to the Secretary to the Corporation, Calcutta.

DUNDEE ROYAL LUNATIC ASYLUM.—Medical Assistant. Salary £100 per annum, with board, lodging, and washing.

GENERAL HOSPITAL, Birmingham.—Surgical Casualty Officer for one year. Salary £50 per annum (non-resident).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians. Also Assistant Resident Medical Officer. Salary £50 per annum, with board and residence.

KENT AND CANTERBURY HOSPITAL, Canterbury.—Assistant House Surgeon, unmarried. Salary £50 a year, with board and lodging.

KING'S COLLEGE London.—The Sambrook Surgical Registrarship. Applications from King's College students only.

LINNEAN SOCIETY OF NEW SOUTH WALES, Sydney.—Macleay Bacteriologist. Applications to Dulan and Co., 37, Soho-square, London.

LONDON THROAT HOSPITAL, Great Portland-street.—House Surgeon, non-resident. Honorarium, £25 per annum.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months each. Salary at the rate of £50 per annum for the senior post.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-road, London, S.E.—Resident Medical Officer, for one year. Salary £70 per annum, with board and residence in the Hospital.

ROYAL SEA-BATHING INFIRMARY, MARGATE.—Assistant Resident Surgeon. Salary £52 per annum, with board and residence. Applications to the Secretary, R. S. B. Infirmary, 30, Charing-cross, London, S.W.

STOKE-UPON-TRENT UNION.—Resident Medical Officer for the Workhouse. Salary £100 per annum, with board, washing, and furnished apartments in the hospital. The appointment is subject to statutory reductions. Applications to the Clerk to the Guardians, Union Offices, Stoke-on-Trent.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House Surgeon. Salary £100, with board, lodging, and washing.

THE RETREAT, York.—Junior Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

UNIVERSITY OF SYDNEY, New South Wales, Australia.—Demonstrator of Physiology. Salary £350. Passage money allowed, £60. Applications to the Acting Agent-General for New South Wales, Westminster Chambers, 9, Victoria street Westminster.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea.—House Physician, for eight months. Honorarium at the rate of £50 per annum, with board and lodging in the hospital. Also House Surgeon for twelve months. Honorarium £50, with board, and lodging in the hospital.

Births, Marriages, and Deaths.

BIRTHS.

BATEMAN.—On Oct. 5th, at Devonshire-street, Portland-place, W., the wife of A. G. Bateman, M.B., C.M., of a daughter.

REICHARDT.—On Oct. 5th, at Dorset House, Ewell, Surrey, the wife of E. Noel Reichardt, M.B. Lond., of a daughter.

RUSSELL.—On Sept. 10th, at Subatha, Punjab, India, the wife of Surgeon-Major M. W. H. Russell, Army Medical Staff, of a son.

MARRIAGES.

BRIDGES—RIDLEY.—On Oct. 4th, at St. Stephen's Avenue-road, Regent's-park, N.W., Ashley Colston Bridges, M.R.C.S., &c., Perth, Western Australia, to Miriam, youngest daughter of the late Edward Ridley, of Bridgnorth, Shropshire.

CAZALET—LYON.—On Oct. 2nd, at St. John's, Caterham-valley, Grenville William Cazalet, L.R.C.P. Lond., M.R.C.S. Eng., of Grey Friars green, Coventry, to Edith Louisa, eldest daughter of Jeremiah Lyon, Biddings Court.

CRAIG—MUNGALL.—On Sept 28th, at Balmoral Hotel, Princes-street, Edinburgh, by the Rev. John Sinclair, assisted by the Rev. James Aitken, M.A., William Craig, M.D., C.M. Edin., Foulford House, Cowdenbeath, to Isa Elder, eldest daughter of Henry Mungall, Esq., J.P., Woodside House, Cowdenbeath.

MORTON—LAW.—On Sept. 20th, at St. Bartholomew's, Maltby, by the Rev. J. Vernon, vicar, Samuel Ernest Morton, L.R.C.P., M.R.C.S., son of Samuel Morton, M.R.C.S., L.S.A., of 8, Burngreave road, Sheffield, to Mary Gertrude, eldest daughter of Wm. Law, The Manor, Maltby.

RITCHIE-THOMSON—POWYS.—On Sept. 28th, at St. Peter's, Wallingford, George Ritchie-Thomson, M.B. Edin., F.R.S.E., to Mabel Alice, second daughter of the late William Cunliffe Powys, Captain in H.M.'s 22nd Foot, and of Garden Creek, Fredericton, New Brunswick.

DEATHS.

CASSIDY.—On June 22nd, at Datta Khel, of wounds received on June 10th in the Tochi disaster, Surgeon-Captain Christopher Clemens Cassidy, son of the late Edward Cassidy, Derry, aged 32 years and 9 months.

FISHER.—On Sept. 19th, at Bawtry, Yorkshire, Jane, for 50 years the widow of the late George Fisher, M.R.C.S. Eng., L.S.A., of Bawtry, Yorkshire, aged 81 years.

KIRKMAN.—On Oct. 3rd, whilst crossing the Arabian Sea, Montague Kirkman, L.R.C.P. Ed., L.F.P.S. Glasg.

ROY.—At Cambridge, on Oct. 4th, Charles Smart Roy, M.A., M.D., F.R.S., of Trinity College, Professor of Pathology in the University of Cambridge, aged 43 years.

SMITH.—On Oct. 3rd, at Stockton Hospital, Robert Gillies Smith, M.A. Aberd., B.Sc. Lond., M.R.C.S., L.R.C.P., eldest son of Robert Smith, M.D., Durham County Asylum, aged 36.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 7th, 1897.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 a.m.
Oct.	1	29·93	N.E.	...	84	61	51	51	53	Foggy
,,	2	30·20	NNE	0·20	84	63	51	51	53	Foggy
,,	3	30·24	W.	...	100	63	52	52	52	Fine
,,	4	30·39	N.W.	...	86	56	48	47	50	Fine
,,	5	30·40	E.	...	84	56	46	46	50	Cloudy
,,	6	30·43	E.	...	85	56	44	44	47	Foggy
,,	7	30·43	S.W.	...	73	53	39	39	40	Dense Fog

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1897, which was completed with the issue of June 26th, was given in THE LANCET of July 3rd. It is intended, in future, to include the Index and Title-page for each past half-yearly volume in the first number of the succeeding volume, as in the present case, instead of in the last number of the volume itself, as heretofore.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2s., by post 2s. 3d.

To be obtained on application to the Manager, accompanied by remittance.

IMPRISONMENT FOR SELLING BAD MEAT.

AT Leamington on Monday last a drover was sentenced to three months' imprisonment for depositing for sale meat unfit for human consumption. The defendant having bought a cow for 12s. 6d. in a neighbouring town, slaughtered it, and offered the flesh for sale. The Mayor of Leamington pointed out that the health of the population could not be preserved if such offences were permitted, and very properly sent the offender to prison.

"THE ALFORMANT."

IN our notice last week of this apparatus for the disinfection of air by means of formaldehyde generated by heating tablets of "paraform" in a special lamp, it was stated that each tablet on heating yielded two and a half times its weight of gas. It should have read that each paraform tablet yielded formalin vapour equivalent in amount to two and a half times its weight of liquid formalin. A saturated aqueous solution of formalin contains 40 per cent. of gas, so that one part by weight of "paraform" is equivalent to two and a half parts by weight of liquid formalin. The discrepancy is pointed out in a communication which we have received from Dr. S. Rideal, who has very thoroughly investigated the disinfecting powers of formalin and its preparations.

Mr. George E. Clemow.—There can be no hesitation in affirming that it is not only inexpedient, but most improper, that the charge of wards for infectious diseases should be given to the same resident officers of a general hospital who have to conduct "major surgical operations, abdominal sections, &c." Indeed, the project of establishing such wards within sixty yards of the main building is fraught with danger. That the bacteriological laboratory should be conducted by the same officers is perhaps unwise, but less open to objection on the score of liability to the transmission of disease, since precautions could easily be taken. The laboratory would, we imagine, be mainly used as an adjunct to the clinical work of the institution, and the size of the hospital is not too great to prevent the officers devoting some of their time to such scientific investigations.

Enquirer (H. C. D.) is recommended to consult his medical man.

CHEAP JAM.

A CORRESPONDENT who ought to know writes to us as follows concerning a paragraph in our last issue: "I notice in THE LANCET a paragraph referring to the quality of the jam given to the inmates of the Bedwellty workhouse. The small sum of 2½*d.* per pound suggests at once to the uninitiated in practical details a sweet slush, or a miserable substitute for jam. I do not think this need necessarily be the case. At the present very low price of good sugar, and with the opportunities of securing sound fruits in bulk quite cheaply (which the commissariat department of public institutions ought to be on the alert to do), a good jam can be furnished at the figure named. I am talking now of home-made jams, and of course such jams may be spoilt by careless preparation. With regard to manufactured products, after the preparation of choice jams in large manufacturing establishments there are quantities of preserve often left not quite shapely in form, or up to the high standard of the particular market. A mixture of these remnants is retailed in some places at the low price of 1*s.* 6*d.* for seven pounds, and in larger quantities can be procured at a still lower figure. It is known as 'household jam' and is thoroughly good and wholesome. In conclusion I see no reason why a sound and palatable jam cannot be provided at 2½*d.* per pound."

Constant Reader (Southsea).—Articles on colitis have appeared in THE LANCET of the following dates: By Dr. Thompson, Nov. 28th, 1891 (p. 1220); by Dr. Goodhart, Feb. 13th, 1892 (p. 345); by Dr. Sainsbury, Aug. 13th, 1892 (p. 367); by Mr. Howard Marsh, Feb. 25th, 1893 (p. 414); by Dr. Carter, March 10th, 1894 (p. 610); by Dr. S. W. Wilson, Jan. 5th, 1895 (p. 75); by Mr. Wood, Jan. 12th, 1895 (p. 131); by Dr. W. H. White, March 2nd, 1895 (p. 537); by Mr. Skene Keith, March 9th, 1895 (p. 639); by Dr. Mackern, June 8th, 1895 (p. 1424) by Dr. W. H. White and Mr. Golding-Bird, Dec. 21st, 1895 (p. 1578); by Dr. Pye-Smith, Jan. 25th, 1896 (p. 233). For other references our correspondent might consult Neale's Digest.

Interested.—There are articles on Maternal Impressions in THE LANCET of the following dates: by Dr. Mackay, Dec. 19th, 1891, p. 1388; by Dr. Halket, Jan. 23rd, 1892, p. 212; July 7th, 1894, p. 40; and Nov. 24th, 1894, p. 1233. We regret that we cannot give our correspondent a full bibliography from English and foreign sources, but we recommend him to consult Neale's Digest and Licetus de Monstris.

Enquirer (E. G. A. M.).—A vaccination officer holds office until he dies or resigns or is removed by or with the consent of the Local Government Board, to which body we recommend our correspondent to take his case.

TOSSING FOR A CORONER.

AT the Essex County Council, held at Chelmsford on Tuesday last, there was a tie in the voting for the coroner for the metropolitan district of the county, and the chairman of the council tossed up a coin, and upon head coming up declared Dr. Ambrose, of Buckhurst-Hill, duly elected.

PRESENTATION TO MR. W. J. C. MILLER, B.A.

WE recently announced that a fund was being raised, mainly by "educational" friends, to present a testimonial to Mr. Miller, late Registrar of the General Medical Council. The testimonial, consisting of a watch and purse, was presented to Mr. Miller on Friday, Oct. 1st. The watch bears a monogram, with the following inscription on the inner case: "Presented, with a purse of gold, to W. J. C. Miller, Esq., B.A., by friends and correspondents in England, America, India, and on the Continent of Europe, as a small token of personal esteem and in acknowledgment of his eminent services to mathematical science through the *Educational Times*. October, 1897." A complete list of the names of the subscribers to the fund was published in the *Educational Times* of Oct. 1st.

J. W. C.—So far as the improvement of the voice is concerned the earlier the false palate is employed the better, but the younger the child the more difficult it is to fix the obturator firmly, so that there may be no danger of its being swallowed. It must further be borne in mind that in children the false palate must be changed frequently to correspond with the rapid increase in size of the mouth which occurs in childhood. All these points being taken into consideration it may be said that a false palate should not be fixed until the child has attained the age of two or three years. If the employment of the obturator be delayed to a later age there is great probability that the nasal tone of the voice will be permanent.

Mrs. S. M. Bosanquet will find that we have made frequent allusion to the peril possibly latent in the chalice.

THE EULOGY OF QUACKERY.

To the Editors of THE LANCET.

SIRS,—This is a cutting from "Stray Notes" in the *Whitehaven Gazette* of Sept. 30th:—

> "There has been much talk lately about the wonderful cure effected to a Carlisle lady by the use of the water at St. Winifred's Well, at Holywell. . . .
>
> "After all is said and done, I don't see anything very miraculous in the cure. We all know how ignorant medical men are as a rule in connection with broken bones or dislocated joints. Even in Whitehaven cures have been effected in less than an hour of ailments that medical men have given up in despair.
>
> "Mr. Wilson, the bone-setter, of Aspatria, who attends the various market towns of the county once a week, has effected greater cures than this at Holywell, and no one attaches any extraordinary virtue to his treatment. He simply understands what he is about, and puts his knowledge into practice."

Comment is needless except to add that the opinion therein expressed is a very popular one in this part of the world, and that we are constantly subjected to censure by all classes because the bone-setter's diagnosis differs from ours. With the many associations and societies to which members of the profession are asked to subscribe for their mutual protection can nothing be done to stop this branch of unqualified practice? When will the public be willing to allow that it requires a braver and often more skilful man to confess doubt upon a point of diagnosis than to assert an absolute opinion, be it right or wrong, in all cases? I am, Sirs, yours faithfully,

Gosforth, Cumberland, Oct. 1st, 1897. C. H. POWERS.

*** The General Medical Council, it is hoped, will soon attempt to do something to stem the tide of quackery. It is in the meantime very regrettable that journals should publish these sweeping puffs of bone-setters. A little inquiry into the claims of such persons to knowledge or past success would always reveal their ignorance.—ED. L.

W. W.—Every case must be judged on its merits. We cannot guess what the Local Government Board might do without knowing the particular circumstances, but it probably has complete power to act as our correspondent describes.

A NURSE'S "MEDICAL AND SURGICAL SERVICES."

THE following advertisement appeared in a recent number of an evening paper:—

> SYDNEY.—A Lady, skilled Nurse, æt. 28, will Give her medical and surgical Services, or act as Companion to a Lady or special case, on a voyage to Sydney or to any port within 300 miles of there, and, if necessary, will stay a short time on arrival, in return for passage; highest testimonials up to date and diploma.—Address Dr. ——, York.

We should be glad to know what are the medical and surgical services of a nurse, what is the difference between a "lady" and "a special case," and what is the "diploma"?

Sigma is asked to sign a letter or give his address for publication, so that answers can be sent direct to him.

A POINT IN COLLIERY APPOINTMENTS.

DR. J. COWAN WILSON writes to us at some length concerning his position towards the practice in a colliery in his neighbourhood. The colliery in question has been until recently under the medical care of another practitioner residing elsewhere. Certain of the colliers having desired to be under the treatment of the medical man residing nearer them the medical officer offered to put an assistant in the place. But upon a ballot 143 colliers voted for employing Dr. Wilson, resident in the place, against 22 who did not wish to change. The manager of the colliery does not sanction any change and will continue to deduct the agreed weekly charge from the wages of the 22, and to hand it to the original medical officer. The 143 dissentients will not have this deduction made from their wages, but must make a collection among themselves for their medical man, which detracts from the safety and convenience of the appointment. Dr. Wilson's contention is that the majority having declared in his favour the same facilities should be given them with regard to their choice as are given to the minority who have decided to uphold their former medical man, and upon the face of it the argument has much force.

A PREDISPOSITION TO HERNIA?

To the Editors of THE LANCET.

SIRS,—A boy, aged seven and a half years, rather under the average size, has ridden a fat little cob since he was six years of age. He is comfortable in the saddle, can ride for ten or twelve miles without any fatigue, and is passionately fond of it. To my mind no harm can accrue, but everywhere I find the lay mind very much exercised as to the harm that will be done to him by putting him on such a wide mount. I find the general impression is that it will produce hernia, but I cannot see why opening the thighs in a light little boy should be any more dangerous than jumping about at play. The cob is very gentle and intelligent, in every way suitable otherwise, and I should be very sorry to have to change, but of course if there is anything in the popular idea I must not risk a rupture for the boy.

I am, Sirs, yours faithfully,

Oct. 3rd, 1897. THE FATHER, M.D.

*** As the inguinal canal is somewhat opened in the abducted thigh it is possible that if the thighs were kept for several hours daily in the abducted position the child would to some extent be risking a predisposition to hernia. The risk would not be great, but it would exist. We know of no observations on the subject.—ED. L.

Worried should consult his family medical man, who will respect his confidence.

THE GENERAL PRACTITIONER AND THE "NURSES' COÖPERATION."

A CORRESPONDENT has sent us for comment the following advertisement which appeared in *The Borough of Marylebone Mercury* of Saturday last:—

MIDWIFERY BRANCH.

Ings House. - - - - Nurses Co-Operation.
81, NEW BOND STREET, W.

Ladies are attended by Certificated Midwives at Fees from 7s. 6d.
(London Obstetrical Society.)
Matron can be seen privately every morning before 12 a.m.
All Cases must be booked and paid for beforehand.
Fully Trained Nurses are sent out for all cases.

TELEPHONE NO. 5,109.
Telegrams, "OVERNIGHT," London.

He asks whether the London Obstetrical Society is aware of the way in which its name is being used, and quotes the advertisement as a striking example of the competition against which the general practitioner has now to contend. It would be interesting to know what the nurses would do if the case turned out to be a complicated one, for even certificated persons are not infallible. Would they send for the nearest general practitioner to assist them or have they a particular medical man upon whose services they can rely by arrangement? In the former case is the medical man likely to be paid well when 7s. 6d. has already been obtained from the patient for inadequate services? In the latter case has the medical officer of the Coöperation considered that he is assisting in a dodge for obtaining the patients of his fellow practitioners?

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (16th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (11th).—MEDICAL SOCIETY OF LONDON.—8 P.M. General Meeting. 8.30 P.M. Ordinary Meeting. Dr. A. E. Sansom (President): On the Investigation of some of the Nervous Disturbances of the Heart.—Dr. W. Anderson: John Arderne, the Father of English Surgery, and his Time.

THURSDAY (14th).—SOCIETY FOR THE STUDY OF INEBRIETY (Medical Society's Rooms, 11, Chandos-street, Cavendish-square, W.).—4 P.M. Surgeon-Major G. K. Poole: The Etiology of Inebriety.—Dr. W. Bode: The New German Code and Inebriety.
BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimens by Dr. Macnaughton Jones, Dr. Collins, and Mr. Hodgson. Paper:—Mr. S. Keith: On Dysmenorrhœa.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

TUESDAY (12th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Buzzard.
HOSPITAL FOR NERVOUS DISEASES (73, Welbeck-street).—4.30 P.M. Dr. H. Campbell: On the General Anatomy of the Neuro muscular System.

WEDNESDAY (13th).—HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. S. Martin: The Diagnosis of Early Phthisis.
EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—(Post-Graduate Course).—4.30 P.M. Dr. Nestor Tirard: Clinical Demonstration on Diseases of Children.

THURSDAY (14th).—THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Demonstration of Selected Cases.

During the week marked copies of the following newspapers have been received:—*Hereford Times, Rushden Echo, Hull Daily News, Newcastle Chronicle, Northampton Mercury, Manchester Guardian, Devon Gazette, East Anglian Daily Times, South Wales Daily Post, Bradford Daily Telegraph, Carlisle Express, Scotsman, Times of India, Pioneer Mail, Builder, Kent Messenger, Leicester Post, Cambria Daily Leader, New Zealand Herald, Architect, Yorkshire Post, Oban Times, Worcestershire Chronicle, Royal Cornwall Gazette, Bucks Herald, Leeds Mercury, Birmingham Gazette, Western Morning News, Dundee Advertiser, North British Daily Mail, Liverpool Daily Post, Salisbury Journal, Sheffield Independent, Blackburn Standard, Beverley Guardian, Bristol Mercury, Sussex Daily News, Bury Free Press, Grantham Journal, Midland Mail, Oldbury Weekly News, Derbyshire Advertiser, Isle of Wight Observer, Worcester Herald, Hampshire Telegraph, Glasgow Herald, Sanitary Record, Reading Mercury, City Press, Weekly Free Press and Aberdeen Herald, Mining Journal, Hertfordshire Mercury, Local Government Chronicle, Norfolk News, Local Government Journal, Public Health, Engineer, Surrey Advertiser, Kilmarnock Herald, Gazette (Montreal), Fifeshire Advertiser, Englishman (Calcutta), Public Health, West Middlesex Herald, Cardiff Times, Guernsey News, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. J. Althaus, Lond.; Association for Pure Vaccine Lymph, Lond., Secretary of; Æsculap Bitter Water Co., Lond.; Messrs. J. and A. Archibald, Tillicoultry; Mons. J. Astier, Paris; Messrs. Armour and Co., Lond.; Ætas, Lond.; Dr. F. C. Abbott, Lond.; *American Journal of Insanity*, Baltimore, Editors of; Dr. A. S. Ashmead, New York; Mr. R. B. Anderson, Lond.; A. B., Lond.

B.—Mr. C. Birchall, Liverpool; Bradford Infirmary, Secretary of; Dr. K. Berlin, Palermo; Messrs. R. Bentley and Son, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Birmingham and Midland Hospital for Women, Secretary of; Mr. F. Brooke, Bridgford; Dr. A. G. Bateman, Lond.; Dr. L. Browne, Lond.; Board of Works for the Poplar District, Medical Officer of Health of; Dr. J. B. Bird, Carlisle; Dr. F. T. Bond, Gloucester.

C.—Sir James Crichton-Browne, Great Malvern; Mr. J. J. Clarke, Lond.; Chelsea Hospital for Women, Secretary of; Corporation of Calcutta, India, Secretary of; Messrs. R. Crooks and Co., Liverpool; Dr. J. Craig, Dublin; Messrs. Carnrick and Co., Lond.; Messrs. Cassell and Co., Lond.; Dr. W. J. C. Coulthard, Aspatria; Dr. J. C. Clemesha, Ontario; Congrès International de Médecine, Moscow, General Secretary of; Dr. G. E. Clemons, Tasmania; Mr. J. Cook, Madras; Dr. J. M. Clarke, Bristol; Mr. J. G. Colmer, Lond.; Dr. W. Carter, Liverpool; Dr. L. J. Crinion, Johnstown, Ireland.

D.—Messrs. Deighton, Bell, and Co., Cambridge; Mr. J. Dawson, Kew Gardens; D., Lond.

E.—Mr. W. G. Earle, Tunbridge Wells; Dr. A. Edwards, Manchester; Dr. Emmerson, Biggleswade; Examination Hall, Royal College of Surgeons, Lond., Secretary of; Exchange Telegraph Co., Lond., Secretary of; Messrs. Elliott, Son, and Boyton, Lond.; Mr. S. Edwards-Jones, Bangor, Isywed.

F.—Mr. W. B. Fairgrieve, Portobello; Mr. C. Fleming, Worksop; Falona Food and Cereal Co., Lond.

G.—Mr. H. Green, Lond.; General Hospital, Birmingham, Secretary of; Messrs. Glaisyer and Kemp, Brighton; Dr. L. G. Guthrie, Lond.; Mr. W. F. Gardener, Lond.; Dr. D. J. Graham, Edinburgh; Dr. L. Grant, Oban; Messrs. C. Griffin and Co., Lond.; Dr. G. Gresswell, Grimsby.

H.—Dr. Hawkes, Bournemouth; Mr. R. J. Hillier, St. Albans; High Wycombe Water Co., High Wycombe, Secretary of; Dr. P. Hamilton-Boyden, H. M. S. *Thrush*, Cape of Good Hope Station, Zanzibar; Hospital for Diseases of the Throat, Lond., Dean of; Messrs. Harvey and Co., Halifax; Mr. L. Hanks, Lond.; Dr. W. K. Hatch, Bombay; Professor R. Howden, Durham; Mr. J. Hutchinson, Lond.; Mr. J. Heywood, Manchester.

I.—Industrial Inventions Development Co. Lond., Secretary of; Messrs. Idris and Co., Lond.;

J.—Mr. I. H. Jones, Lond.; Mr. R. Johnson, Lond.

K.—Mr. R. Kimpton, Lond.; Mr. T. S. Kemp, Ireland; Mr. R. C. B. Kerln, Lond.; Kent and Canterbury Hospital, Secretary of.

L.—Dr. J. J. Lynch, Walsall; Mrs. Lawson, Catterick; Lorette (Manitoba) Post Office, Postmaster of; Messrs. Lowe and Brydone, Lond.; Messrs. Lee and Martin, Birmingham; Mr. C. Lyddon, Birmingham; Mr. J. H. Lile, Lond.; L. J. C., Shillingstone; Mr. H. K. Lewis, Lond.

M.—Mr. J. W. McVitie, Weaste; Mason College, Birmingham, Secretary of; Surgeon-Colonel T. J. McGann, Rangoon, India; Messrs. Macmillan and Co., Lond.; Manchester Royal Infirmary, Secretary of; Mr. H. S. J. Maas, Lond.; Middlesborough Mineral Water Co, Managing Director of; Dr. W. A. Mackay, Huelva; Mr. D. Maguire, Sligo; Mons. Müller, Grenoble; Dr. O. F. Marshall, Lond.; *The Medical Magazine*, Editor of; Dr. E. G. A. Morshead, Guildford; Messrs. J. Maythorn and Son, Biggleswade.

N.—Mr. J. W. Nunn, Ipswich; National Hospital for the Paralysed and Epileptic, Lond., Secretary Director of. Messrs. Newton, Chambers, and Co., Thorncliffe.

O.—Messrs. Oakes Bros., and Co., Lond.; Dr. Oppenheimer, Lond.

P.—Mr. Y. J. Pentland, Edinburgh; Dr. H. Pigeon, Ontario; Messrs. Potter and Sacker, Lond.; Messrs. Parke, Davis, and Co., Lond.; Dr. S. Prior, Lenzie; Mr. J. B. Pike, Loughborough; Parent's Mission, Lond., Secretary of; Mr. J. L. Pennington, Liverpool.

R.—Mr. S. Rideal, Lond.; Dr. S. J. Ross, Bedford; Royal Portsmouth Hospital, Secretary of; Rockavon Boarding House, Buxton, Proprietor of; Messrs. Reynolds and Branson, Leeds; Royal College of Surgeons, Lond., Assistant Secretary of; Registered Nurses' Society, Lond., Assistant Secretary of; Royal Halifax Infirmary, Secretary of.

S.—Mr. H. Sell, Lond.; Messrs. Smedley and Co., Birmingham; Messrs. J. Segg and Co., Lond.; Sanitary Wood Wool Co., Lond.; Messrs. Street and Co., Lond.; Suffolk General Hospital, Bury St. Edmunds, Secretary of; Dr Silvester, Lond.; Scapula, Lond.; Sanitas Co., Secretary of; Messrs. Street Bros., Lond.; Mr. J. K. Smith, Liverpool; Dr. T. D. Savill, Lond.; Mr. E S. Swanwick, West Hartlepool; Stoke-upon-Trent Union, Clerk of; J. T. Segrue Ltd., Lond.

T.—Mr. W. Turner, Lond.; Messrs. Tucker and Sons, Totnes.

V.—Mr. G. Vickers, Lond.; Victoria Medical Society, Melbourne, Secretary of; Vestry of St. Mary, Islington, Medical Officer of Health of.

W.—Mr. T. Wilson, Lond.; Mr. S. Wechsler-Jassy, Roumania; Dr. J. C. Wilson, Blantyre; Wyleys, Ltd., Coventry; Warneford Asylum, Oxford, Medical Superintendent of; Worshipful Company of Plumbers, Lond., Clerk of; Wellington, New Zealand, Inspector-General's Office.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. E. Allen, Hawes; A. B. C., Lond.; Assistant, Lond.; Alma, Lond; A. Z., Lond.; Messrs. Allen and Hanburys, Lond.; Apollinaris Co, Lond.; Alpha, Lond; Mr. S. E. Atkins, Axminster.

B.—Dr. Burns, Moffat; Mr. T. W. Bevan, Nantyglo; T. B. Browne, Ltd., Lond.; Mr. J. N. Bredin, Potton; Messrs. F. B. Benger and Co., Manchester; Dr. Benson, Wigan; Mr. J. Birt, Uckfield; Messrs. Burgoyne, Burbidges, and Co., Lona.; Biometer, Lond.; Mr. J. Barton, Wigan; Messrs. Brown, Gould, and Co., Lond.; Mr. G. W. Buck, Settle.

C.—Dr. D. E. Cantillon, Cardiff; Coach, Lond.; Messrs. Crossley, Moir, and Co., Lond.; Miss Currie, Lond.; Mr. A. C. Cole, Lond.; Dr. W. Craig, Lond.; Mr. T. C. Crawford, Worthing; Confidence, Lond.; Clavicle, Lond.; C. M., Blackpool; Mrs. A. M. Campbell, Lond.; Cole, Lond.; Cymraeg, Lond.

D.—Mr. W. H. Date, Culmstock; Messrs. A. De St. Dalmas and Co., Leicester; Delta, Lond; Mr. L. W. Davies, Llansilin; Messrs. Deacon and Co., Lond.; Duffryn, Lond.

E.—Mr. A. P. B Ellis, Forfar.

F.—Mr. P. V. Fry, Farnworth; Mr. G. Fisher, Shere.

G.—Gamma, Lond.; Genial, Lond.; G. M. A., Lond.

H.—Mr. W. Hay, Hull; Hekaton, Lond.; Messrs. Hooper and Co., Lond.; H., Ironbridge; Home, Lond.; Mr. J. O. Hadden, Lond.; Dr. W. B. Harry, Briton Ferry; Captain W. V. Herbert, Lond.; Dr. W. Herron, Dromore, Ireland.

J.—Mr. W. A. Johnston, Askern; J. P. P., Lond.; Messrs. J. F. Jones et Cie, Paris; Messrs. Jones Bros., Clifton.

K.—Mr. C. P. Kelly, Strood; Kappa, Lond.; Mr. M. F. Kelly, Lond.; K. R., Lond.; Messrs. Kilner Bros., Lond.

L.—Mr. W. M. Lindsay, Kirkmuirhill; Mr. S. C. Lawrence, Earls Barton; Limehouse Board of Works, Secretary of; Dr. Low, Lond.; Dr. R. H. Lucas, Bury St. Edmunds; Dr. E. S. Lee, St. Leonards-on-Sea; Locum, Blackpool; Mr. F. W. Lacey, Bournemouth; Mr. J. Lilwall-Cormac, Burton-on-Trent; Mr. E. M. Little, Lond.

M.—Mr. E Morton, Maltby; Dr. C. Macmaster, Perth; Signor Conte di Mazzarino, Palermo, Sicily; Dr. C. W. MacGillivray, Edinburgh; Mr. J. Milne, Ladywell; Mucol, Lond.; M. A. B, Lond.; Medicus, Loughton; M., Lond.; Medicus, Edinburgh; Mr. F. W. Miller, Fakenham; M D., Bothwell; Messrs. Matthews Bros., Lond.; Dr. D MacLennon, Tongatabu, South Seas; Dr. A. F. Mackenzie, Clacton-on-Sea; Mr. B. G. A. Moynihan, Leeds; M.R C S., Lond.

N.—Mr. W. J. Nicholls, Swaythling; Nux, Lond.

O.—Mr. F Orchard, Lond.; Omega, Lond.; O., Lond.

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